

UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MASSACHUSETTS

ARISE FOR SOCIAL JUSTICE; OISTE?  
NEW ENGLAND STATE-AREA  
CONFERENCE OF THE NAACP; REV.  
TALBERT W. SWAN, II; NORMAN W.  
OLIVER; DARLENE ANDERSON;  
GUMERSINDO GOMEZ; FRANK BUNTIN;  
RAFAEL RODRIQUEZ; and DIANA NURSE,

Plaintiffs,

v.

CITY OF SPRINGFIELD and SPRINGFIELD  
ELECTION COMMISSION,

Defendants.

Civil Action No.05-30080 MAP

**AFFIDAVIT OF PAUL FOSTER**


I, Paul Foster, hereby certify as follows on the basis of my personal knowledge:

1. From 2002 until January 2007, I was Senior Planner and Regional Information Center Manager at the Pioneer Valley Planning Commission ("PVPC"), located at 26 Central Street, Suite 34, West Springfield, MA 01089-2787.
2. A copy of my curriculum vitae is attached to this Affidavit at Tab A.
3. The PVPC is a public agency that has existed since 1962 under the authority of Mass. G. L. ch. 40B and serves as the designated regional planning body for the Pioneer Valley region, which includes Springfield. PVPC is the primary agency responsible for increasing communication, cooperation, and coordination among all levels of government to benefit the Pioneer Valley region.
4. As a Senior Planner and Regional Information Center Manager, my duties included managing ongoing regional research, development, improvement, and maintenance of socio-economic databases, and management of the agency's data center. I also wrote and published reports based on the data contained in the agency's databases.
5. Attached hereto at Tab B is a true and correct copy of a report entitled "A Demographic and Economic Analysis of the City of Springfield" (the "Report").

I prepared this report from July to September of 2006 pursuant to my duties as PVPC's Senior Planner and Regional Information Center Manager. I was assisted by PVPC staff acting at my direction and under my supervision. The purpose of the Report is to provide a detailed picture of the current demographic, social, and economic condition of Springfield. The sources of information relied upon are identified within the Report.

6. "A Demographic and Economic Analysis of the City of Springfield" sets forth the activities of the PVPC, matters observed and reported pursuant to the duties of the PVPC, and factual findings resulting from investigations made at the request of the City of Springfield as a Pioneer Valley Commission Member Community pursuant to Mass. G. L. ch. 40B § 3.
7. Attached hereto at Tab C is a true and correct copy of a report entitled, "Owning a Place to Call Home: An Analysis of Fair and Subprime Lending in the Springfield Metropolitan Area" (the "Lending Analysis"). I prepared the Lending Analysis in 2003 pursuant to my duties as PVPC's Senior Planner and Regional Information Center Manager. I was assisted by PVPC staff acting at my direction and under my supervision. The purpose of the Lending Analysis was to create a detailed analysis of the regional home lending market, with an emphasis on fair lending practices and subprime lending. The sources of information relied upon are identified within the Lending Analysis.
8. "Owning a Place to Call Home: An Analysis of Fair and Subprime Lending in the Springfield Metropolitan Area" sets forth the activities of the PVPC, matters observed and reported pursuant to the duties of the PVPC, and factual findings resulting from investigations made by the PVPC pursuant to Mass. G. L. ch. 40B.

Signed under penalties of perjury this 30 day of January, 2007.

  
Paul Foster

**CERTIFICATE OF SERVICE**

I hereby certify that this document filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non-registered participants on February 2, 2007.

/s/ Paul E. Nemser

# EXHIBIT A



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#### EDUCATION

*Brandeis University, Waltham, MA*  
**Ph.D. in Social Policy** **Expected 2008**  
 Focus: Purchasing public education  
 Advisor: Thomas Shapiro

*Brandeis University, Waltham, MA* **2006**  
**M.A. in Social Policy**  
 Areas of Concentration: Assets and inequalities  
 Advisor: Thomas Shapiro  
 Coursework including: Statistics, econometrics, advanced econometrics, applied quantitative methods, labor economics, social stratification theory, assets and inequalities, wealth and poverty, program and policy implementation, theory and analysis of social policy, research methods, qualitative research, and applied qualitative research.  
 Advisor: Thomas Shapiro

*Harvard University, Cambridge, MA* **1997**  
**B.A. Magna Cum Laude in History and Afro-American Studies**  
 Advisor: Evelyn Brooks Higginbotham, Depts. of History and Afro-American Studies  
 Honors Thesis: "Which September? Segregation, busing, and resegregation in the Columbus Public Schools, 1946-1996"

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#### AWARDS

Spencer Graduate Research Fellowship	<b>2006-2007</b>
Spencer Graduate Educational Research Grant	<b>2005-2006</b>
National Science Foundation Graduate Research Fellowship – Honorable Mention	<b>2005</b>
Charles Warren Undergraduate Prize Fellowship for Research	<b>1996</b>

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#### RELATED EXPERIENCE

*Pioneer Valley Planning Commission, West Springfield, MA* **2002 – Present**  
**Senior Planner – Regional Information Center Manager**  
 Manage activities of the Regional Information Center and Economic Development sections as a department head reporting to the Executive Director. Supervise and train graduate student interns. Write and manage the production of a variety of publications including research studies, periodic data digests, quality of life indicators, presentations, population projections, and current economic indicators. Manage relationships with both internal and external clients of work.

*Development Guild/DDI, Inc., Brookline, MA* **1997 – 2002**  
**Consultant (Assistant then Associate 1997 – 2001)**  
 Worked across the firm's range of services with a focus on strategic planning and program evaluation. Clients included the Echoing Green Foundation, Greater Boston Legal Services, Partners HealthCare Systems, and the W.K. Kellogg Foundation.

*InterVarsity Christian Fellowship, Madison, WI*

**Campus Staff Member**

**1999 – 2002**

Established new non-denominational campus ministries at two area colleges. Founded and co-directed Summer in Springfield and Spring(field) Break – respectively six-week and one-week urban ministry leadership development programs for college students, with development of comprehensive curriculum dealing with local and national issues around urban development and poverty.

*Encyclopedia Africana, Harvard University, Cambridge, MA*

**Freelance Researcher and Writer**

**1997**

Independently researched and wrote articles to be included in a CD-ROM encyclopedia of the African Diaspora.

*Harvard University, Cambridge, MA*

**Research Assistant**

**1997**

Provided research assistance including: a review of primary documents for a study of an early 20<sup>th</sup> Century all-black town in Darke County, Ohio; and, an analysis of documents for a program evaluation of the Lilly Endowment's Black Church projects.

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**TEACHING EXPERIENCE**

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*Westfield State College, Westfield, MA*

**Adjunct Professor – Quantitative Research Methods (MPA program)**

**2007**

Develop the curriculum and teach a three hour per week class for Masters of Public Administration students, including lecturing, discussion leading, and student evaluation.

*Brandeis University, Waltham, MA*

**Teaching Assistant – to Professor Robert Reich in "The Paradox of Wealth and Poverty."**

**2005**

Led a weekly ninety minute discussion section with 20 students and graded midterm and final papers. Participated in teaching assistant meetings discussing curriculum, pedagogy and grading.

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**PUBLICATIONS AND PAPERS**

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Foster, P.N. (2002). *A statistical profile of New England's Knowledge Corridor, 2002*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N. (2002). *Labor force and employment in the Pioneer Valley Region: A 20-year retrospective*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N. (2003). *Discerning the future for the Pioneer Valley Region, 2000-2030*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N., Bearns, G., & Malloy, E. (2004). *2003 State of the People for the Pioneer Valley*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N., & Lash, A.J. (2005). *Examining impact: Evaluation of year-two of the smaller learning communities grant to the Springfield and Chicopee (Massachusetts) Public Schools*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N., Lehmann, A.G., & Blake, T. (2005). *Refinancing a place to call home: A briefing on the home refinancing market in the Springfield Metropolitan Area, 1996-2003*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N., & Malloy, E. (2003). *Owning a place to call home: An analysis of fair and subprime lending in the Springfield metropolitan area*. West Springfield, MA: Pioneer Valley Planning Commission.

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Foster, P.N., & Malloy, E. (2004). *Nonprofit organizations in the Pioneer Valley: Contributing to communities across the region*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N. & Michaud, T. (2003). *Population in the Pioneer Valley Region: The importance of immigration*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N., & Perrone, T. (2005). *Self-employed and at-home workers: The "hidden economy" of the Pioneer Valley region*. West Springfield, MA: Pioneer Valley Planning Commission.

Foster, P.N., Sadler A.J., & Maldonado, S.M. (2005). *'Students are acting like students:' Year one evaluation of the Smaller Learning Communities Grant in the Chicopee and Springfield (MA) Public Schools*. West Springfield, MA: Pioneer Valley Planning Commission.

Reinelt, C., Foster, P.N., & Sullivan, S. (2002). *Evaluating outcomes and impacts: A scan of 55 leadership development programs*. Battle Creek, MI: W.K. Kellogg Foundation.

Reinelt, C., Sullivan, S., & Foster, P.N. (2003). *Engaging new leadership voices for catalyzing and sustaining community change*. Battle Creek, MI: W.K. Kellogg Foundation.

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# EXHIBIT B

## (Part 1)

# A Demographic and Economic Analysis Of the City of Springfield

September 2006

Prepared by:

Paul N. Foster  
Stefanie M. Santaniello  
Justine Calcina  
Delania Barbee  
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## A Demographic and Economic Analysis of the City of Springfield

## Table of Contents

<b>Key Findings</b>	<b>3</b>
<b>Introduction</b>	<b>9</b>
<b>Description of the City of Springfield</b>	<b>11</b>
<b>A Brief History of Springfield</b>	<b>13</b>
<b>People in Springfield</b>	<b>15</b>
Demographics	15
Family structure, economics, and education	19
Family incomes	22
Labor force	24
Occupations of Springfield residents	27
<b>Education in Springfield</b>	<b>31</b>
Springfield Public Schools	31
Charter and private schools	45
Higher education	48
<b>Businesses in Springfield</b>	<b>57</b>
Business in Springfield	57
Major employers	63
<b>Real Estate in Springfield</b>	<b>68</b>
Profile of Springfield housing	68
Residential real estate market	74
Residential real estate costs	77
Springfield office space	81
Commercial and industrial real estate market	84
Brownfields revitalization	88
<b>Analyzing Labor Supply and Demand</b>	<b>90</b>
Occupational overview	90
Occupational gaps	93
<b>Analyzing Business Opportunities</b>	<b>98</b>
Industry cluster analysis	98
Business costs	106
<b>Analyzing Peer Cities</b>	<b>114</b>
Population demographics and socio-economics	116
Household economics	121
Labor force	126
Employment and business growth	128
Crime	132
<b>A Note on Sources and Methods</b>	<b>135</b>

## A Demographic and Economic Analysis of the City of Springfield

### Key Findings

The purpose of this report is to provide a detailed picture of the current demographic, social, and economic condition of the City of Springfield. It is, in essence, a baseline data report from which plans can be made and goals set. For example, we report here the trend of declining family incomes in Springfield, which then establishes a baseline from which goals for increased family income might be set. While the report's primary purpose is to give "just the facts," we felt the report would be incomplete without our analysis of the key findings or trends that emerge from the data. We have spent nearly two months assembling, analyzing, reviewing, and writing about the data in this report; therefore, we have a unique perspective on the important ideas the data suggests.

While the following list of key findings is not exhaustive, it would be possible to write a "finding" about every chart or table in the report, these findings represent our assessment of the most important facts and trends as they relate to the future of Springfield. Furthermore, these key findings focus on an economic development perspective as that was the genesis and purpose of this report.

#### *Demographics*

- The size of Springfield's population has changed little since 1990, always hovering around 150,000 people, but the composition of that population is continually changing. More than a quarter of Springfield's population is under the age of 18, making the city much younger than Massachusetts as a whole. This youthful age distribution in part reflects the shift between 1990 and 2000 to a population base that is a majority persons of color, and the Hispanic and African American populations of Springfield have very young age distributions (nearly 40 percent of the city's Hispanic population is under 18). Compared to eight similarly sized cities, Springfield has the highest percentage of the population that is Hispanic and the highest percentage that is under 18.
- Demographic transitions in the city have led to similar transitions in the schools as the Springfield Public Schools went from 37.6 percent Hispanic in the 1994-1995 school year to 50.8 percent Hispanic in 2005-2006. By comparison, only 12.9 percent of public school students across Massachusetts are Hispanic.
- With increasing racial diversity comes increasing linguistic diversity and as of 2004 less than 70 percent of people in Springfield speak English as their primary language at home, with 23.9 percent of the population speaking Spanish at home. In any given school year the percentage of Springfield's school students who are considered limited English proficient is about double that of Massachusetts.
- During 2004 and 2005, the city of Springfield had a violent crime rate nearly double that of all eight comparison cities. While the murder rate, which is a subset of the violent crime rate, was not as out of proportion, Springfield has a significant public safety problem that is particularly severe in the area of violent crime. Furthermore, Springfield has the highest rate of motor vehicle theft among peer cities, which has consequences for the cost-of-living in the city as auto insurance rates are triple those of neighboring communities. Springfield

### A Demographic and Economic Analysis of the City of Springfield

certainly has high rates of poverty and relatively high rates of unemployment, but these are generally comparable to peer cities, where as the crime rates are an order of magnitude larger than the peer cities. This suggests Springfield has a public safety problem that is out of scale with or not explained by the degree of socio-economic distress in the community.

#### *Family economics*

- With two of every five families in Springfield headed by a single mother, the city's high poverty rates are perhaps unsurprising as the city's single-female headed families have median incomes less than half that of married-couple families. Because young children are even more likely to be in these single-parent and low-income families, more than three-quarters of the students in the Springfield Public Schools qualify for free or reduced price lunch. Among peer cities, only Dayton, Ohio and Syracuse, New York come close to Springfield's percentage of families with children headed by a single-female.
- When compared with eight peer cities, Springfield has the third highest poverty rate and the second highest child poverty rate. More than one-third of children in Springfield live in households with incomes below the Federal poverty line, only surpassed by Syracuse, New York.

#### *Education*

- While the performance of Springfield students on the Massachusetts Comprehensive Assessment System (MCAS) exam has improved dramatically, the percentages of students passing remains between 10 and 20 percentage points below that of all Massachusetts students. Among Springfield's three charter schools, MCAS performance at only one (Sabis International) is significantly better than the district as a whole and that school has a substantially lower low-income percentage than the district.
- Among difficulties facing the Springfield schools, less than 80 percent of Springfield teachers in 2005-2006 were licensed in their teaching assignment, compared to better than 90 percent for most neighboring districts. A lingering labor dispute and the resignations of many teachers over the past two school years may have caused this number to decline from 88.9 percent in the 2003-2004 school year. With a new five-year contract approved at the start of the 2006-2007 school year, it is likely this downward trend will reverse itself.
- Springfield's two- and four-year institutions of higher education appear to be effectively producing graduates in needed fields with 2003-2004 seeing a total of 370 associates degrees awarded in business, engineering technologies, or health professions and 507 bachelors degrees awarded in business, engineering or health. Unfortunately, the city's higher education institutions are not producing many graduates in the biological sciences, physical sciences, mathematics, or computer sciences, all significant new economy fields. In addition to retaining college graduates from among the city's population, Springfield needs to attract more individuals with higher degrees and earning potential.



## A Demographic and Economic Analysis of the City of Springfield

### *Workforce*

- Springfield residents' need for higher wage jobs that do not require a college degree is evident in that only 17.5 percent of Springfield adults have at least a four-year college degree (compared to more than a third of Massachusetts adults). This percentage is lower than that of all peer cities except Dayton, Ohio. The diminishing number of jobs that do not require a college degree is evident in Springfield's unemployment rate which follows the trend of Massachusetts but is consistently about two percentage points higher.
- Springfield's resident workforce is employed in comparable industries to the workforce throughout Hampden County, but it is Springfield's resident who are employed in the lower-wage occupations within those industries. For example, in the health care industry, residents of Springfield tend to be employed in service occupations while residents of the rest of the county tend to be employed in management or professional occupations.
- Residents of Springfield are heavily concentrated in service and sales or office occupations. Based on an assessment of national occupational projections, it would appear that Springfield residents need to develop the skills and acquire the education necessary to move into management, professional, and financial occupations in order to be well prepared for the future economy. In particular, if Springfield residents are going to benefit from the rapidly growing health care sector in the region it will be necessary for residents to be trained as health practitioners such as nurses or doctors and not simply as medical assistants or other service occupations. Office and administrative occupations are also growth areas and Springfield's population should be prepared for these fields as well.
- Over time Springfield has progressively lost higher-wage earning residents. This is evidenced by the 3.6 percent drop, between 1990 and 2000, in the average wage and salary income of Springfield households, from \$43,507 in 1990 to \$41,954 in 2000 after adjusting for inflation. Between 2001 and 2005, the U.S. Census Bureau estimates a loss of more than 250 people earning more than \$100,000 per year.

### *Business and industry*

- As the largest and "capital" city of the Pioneer Valley region, Springfield's importance is indisputable as the home to more than one-quarter of the region's jobs and more than one-fifth of the region's industrial land.
- Based on recent employment changes, the city's growth industries appear to be health care; educational services; arts, entertainment, and recreation; and, other services. Financial services and metal manufacturing remain substantial industries in the city and should also be supported to grow. Among the city's 10 largest employers there are three hospitals, two colleges, one financial services firm, and two manufacturers.
- Five of eight peer cities have higher average annual wages than Springfield, suggesting another selling point for the city. Despite being located in New England with the stereotype of high business costs, Springfield represents a lower-wage location within New England,

### A Demographic and Economic Analysis of the City of Springfield

with lower average annual private sector wages than cities in Alabama, Florida, New York, and Ohio.

- While private sector employment in Springfield grew by only 0.4 percent between 2003 and 2004, the total number of private sector establishments grew by 5.4 percent. This establishment growth outpaced all eight cities against which Springfield was compared. Slow employment growth coupled with rapid establishment growth suggests that Springfield's economy is continuing its shift to a small and very-small business orientation. Furthermore, the 5.4 percent increase in the number of establishments suggests vibrant entrepreneurship in the city and supporting and cultivating emerging businesses may be a source of significant employment growth in the future.
- Not only are the educational services and health care industries growing in Springfield, but they, along with the financial services industry, are major industry clusters and export industries for the city. While this does not mean goods are exported, it means that people from beyond Springfield pay for educational, health, or financial services provided in the city.
- Interestingly, data on the retail trade industry in Springfield suggests that residents of Springfield or those working in Springfield do their shopping outside the city. This may indicate that there is unmet demand for retail services within Springfield city limits.
- While manufacturing as a whole does not appear to be an industry cluster in Springfield, there is a very vibrant metal-working cluster in Springfield. The fabricated metal product manufacturing; coating, engraving, and heat-treating metal; metal-working machinery manufacturing; and, industrial machinery manufacturing industries all have significant location quotients in Springfield indicating their prominence as an export industry.
- Business costs are significantly lower in Springfield than in other parts of Massachusetts with rates for both water and electricity significantly lower than in Boston. Furthermore, the lower cost of housing in the city should be attractive to employers in other parts of New England who risk losing valuable employees as a result of high housing costs.

#### *Residential real estate*

- Springfield, known as the "City of Homes" for its Victorian mansions and history of small homes for factory workers, had nearly 6,000 vacant housing units in 2004, of which more than 2,000 were vacant for unknown reasons (e.g. not for sale or rent and not for seasonal use). Affecting the marketability of Springfield housing, in an era when the dominant market model is ownership of new single-family homes, less than half the housing units in Springfield are single-family dwellings and nearly half of all housing units were built before 1939.
- Positively, the cost of housing in Springfield is very low compared both to peer cities nationally and to the generally high cost in New England. Four of the peer cities Springfield was compared to have higher percentages of renters who pay more than 30 percent of their

### A Demographic and Economic Analysis of the City of Springfield

income in rent. With respect to the cost of purchasing a home, two peer metropolitan areas are more expensive than Springfield, one of them being nearby Worcester, and the price of housing within Springfield city limits is even lower than in the metropolitan area as a whole. The cost of real estate in general and housing in particular is one of Springfield's most important assets and should be a major selling point for potential residents and businesses. Rising prices between 2003 and 2005 suggest that the low prices in Springfield are already being discovered.

- The Springfield residential real estate market hit bottom in the middle 1990s with median single-family prices at sale (in 2005 dollars) below \$80,000. However, housing market pressures from eastern Massachusetts and from rapidly rising prices in neighboring communities have driven prices up since 1997, such that the median price of a single-family home in 2005 was nearly \$140,000.

#### *Commercial and industrial real estate*

- Springfield Class A and C office space have lower vacancy rates than surrounding communities, suggesting Springfield office space, at least in these class categories, is in higher demand, but with more than 470,000 square feet of vacant office space there is substantial space for new businesses or expansions. Furthermore, lease rates for Class C office space tend to be lower than in surrounding communities suggesting Springfield should use this lower cost to market the city to entrepreneurs interested in low-cost space for new enterprises.
- The market for commercial and industrial real estate has been slow in the last year with primarily smaller properties moving (18 properties sold in the last year with a total of 190,000 built square feet). The average size of commercial buildings that sold in the last year was only 6,500 square feet compared to an average size of 93,329 square feet for commercial buildings on the market. Despite a significant amount of property available, the city issued 107 permits in 2005 for new commercial and industrial construction suggesting healthy demand.
- The city is effectively prioritizing brownfields assessment and remediation activities by focusing on the largest parcels and those most likely to be redeveloped. While only six of the city's 53 commercial and industrial brownfields sites have undergone any assessment or remediation activities, they account for 55 percent of all brownfields land area.

In summary, Springfield has tremendous assets in its increasingly diverse population; the low cost of real estate; local institutions of higher education; low costs for businesses (especially wages); the extensive growth in number of businesses (primarily small); and the existence and growth of industry clusters that are key to the new economy (health care, education, financial services, and precision metal-working). However, there are also obvious threats that could derail Springfield's attempts to flourish, such as disproportionately high crime rates; low rates of educational attainment; concentration of residents in low-wage, low-skill occupations; overall low incomes and high poverty rates; numerous children growing up in low-income, single-parent

**A Demographic and Economic Analysis of the City of Springfield**

households; limited English proficiency; inability to retain college graduates in the city; poor educational performance; and, little population growth.

Springfield's assets, in its institutions, employers, and low costs, are assets for the entire Pioneer Valley, but the threats facing Springfield are generally confronted by the city and its residents alone. Furthermore, the region has played its part in allowing particular threats to emerge and remain unchecked in Springfield. Numerous communities throughout the Pioneer Valley benefit tremendously from their proximity to the employment centers and infrastructure based in Springfield. Property values and property tax revenues soar in suburban and rural communities as they become home to the high-wage, professional workforce that arrives in Springfield each morning and leaves each evening. Retail and service establishments spring up in previously rural communities to serve the needs of this commuting workforce, causing similar establishments in Springfield to close. In Springfield a population is left that is a majority people who serve in the region's lowest-skill jobs, receiving low wages and left without the means of affording either the housing or transportation necessary to live elsewhere. Without doubt the challenges identified in this report have numerous and complex causes, but they are as much regional as local and if the region will continue to benefit from Springfield's assets, the region will have to participate in addressing Springfield's struggles.

## A Demographic and Economic Analysis of the City of Springfield

### Introduction

When in June of 2006 we were commissioned by the City of Springfield's Planning and Economic Development Department to craft a detailed market study of the city, the composition or breadth of the report's audience was unclear. However, in conversations with city officials as well as representatives of MassDevelopment, who are working closely with the city, it became evident that this was not to be a market study only, in the traditional sense of examining the city's real estate or other markets. Instead, the purpose of this report was to provide a detailed analysis of Springfield's current state of affairs and the trends that have led to this point. This study examines what the existing secondary data says about Springfield's condition and trajectory. The report is one input, along with others such as the Urban Land Institute review, in the ongoing process of designing strategies for Springfield's revival.

We began this project with three major components of the report in mind. First, we would provide a detailed overview of the demographic, social, and economic features of the city. Second, we would analyze labor supply and demand in the city, looking for mismatches and opportunities. Finally, we would compare Springfield to comparable cities to identify particular strengths or weaknesses. All three of these components have made their way into this final report.

One challenge in writing such a report is one of scale. While Springfield is the central city of the Pioneer Valley region, it is a part of a larger region and, particularly with respect to economic development, is not an island. In identifying peer cities we were challenged by whether we were looking for similarly sized regions or simple similarly sized cities. From an economic development perspective, Springfield's competitive strengths and weaknesses are largely shared with the region and therefore a regional view is crucial.

On the other hand, Springfield is facing a particularly unique and isolating struggle at the present moment in its history and we fully understand the importance of narrowly understanding what is happening within Springfield's city limits. Therefore, knowing the importance of regionalism to economic development, we deliberately focused this report on identifying the baseline condition of the city of Springfield as defined by the municipal boundaries. In some cases the realities of the data required us to analyze the region rather than the city, but whenever possible the data presented in this report reflects the city of Springfield alone.

A note on the format and layout of this report will speed your reading. As a baseline data report, there are more than 100 graphs and tables; nevertheless, the narrative is equally crucial because it has been written carefully to summarize and analyze what is represented in graphs and tables. To make reading of the narrative easier, in each section of the report, the narrative analysis appears first and is followed by all graphs and tables relevant to that text. We have left references to particular graphs and tables out of the narrative as it is often challenging to keep turning pages from text to graph. It is our hope that the text is sufficient to be understood without repeated reference to the graphs and tables, then the visuals can be absorbed separately or examined for further details. The first half of this report presents an overview of data in a variety of areas such as demographics or businesses, while the second half of the report is meant to be more analytic. In some cases the same data is used in both parts of the report, but in different ways. The occupations of Springfield residents are reported as part of the demographics of Springfield's population, but the occupational data is also used in the analysis of labor supply and demand.

### **A Demographic and Economic Analysis of the City of Springfield**

Finally, the key findings section of the report preceded this introduction because we view it in some respects as a separate document. The baseline data report on the city of Springfield begins with this introduction and we have attempted to discuss the data in neutral terms, simply presenting the facts as they are suggested by the data. We have not avoided interpreting the data in terms of identifying causal relationships or trends, but throughout the bulk of this document we have avoided drawing large-scale conclusions about Springfield's condition or direction in favor of simply reporting the reality. However, the key findings section is our attempt, having assembled this volume of data, to distill the facts and trends that we believe tell the most important and timely aspects of Springfield's present story. Obviously the reason for having a baseline data report is for readers to draw their own conclusions; therefore, our assessment of key findings should not be thought of as definitive. It is our hope and intention that the data and analysis contained in this report will spur further analysis and, more importantly, action that improves the quality of life for all of Springfield's residents.



## A Demographic and Economic Analysis of the City of Springfield

### Description of the City of Springfield

The City of Springfield sits on the banks of the Connecticut River only a few miles north of the Massachusetts and Connecticut border. The City is approximately 33.2 square miles and sits on the east-bank of the River. With about 150,000 people, Springfield's population density is approximately 7 people per acre. Springfield's downtown and North and South End neighborhoods sit low and flat along the banks of the River. Moving East from the River the ground rises to hills in the Liberty Heights neighborhood to the North, the Mason Square neighborhoods through the middle of the City, and the Forest Park neighborhood to the South.

Typically Springfield is divided into seventeen distinct neighborhoods. They are, as defined by the city Election Commission: Bay, Boston Road, Brightwood, East Forest Park, East Springfield, Forest Park, Indian Orchard, Liberty Heights, McKnight, Memorial Square, Metro Center, Old Hill, Pine Point, Six Corners, Sixteen Acres, South End, and Upper Hill. While the exact boundaries are disputed depending on the source considered, most residents of Springfield have a sense of the neighborhood in which they reside and the Election Commission names are commonly used throughout the city. Some neighborhoods are divided again or aggregated together based on landmarks or meaningful geography. For example, the Hollywood section of the South End is actually a housing complex and Mason Square is a central intersection where the Bay, McKnight, Old Hill, and Upper Hill neighborhoods converge.

Among significant geographical features of the city, Forest Park lies in the southwestern corner of the city, along the border with Longmeadow, and is one of the largest municipal parks in the United States. Other large municipal parks in Springfield include Blunt Park at the corner of Roosevelt and Bay streets and Five Mile Pond in the Boston Road neighborhood. Lake Massasoit sits between the Upper Hill and Sixteen Acres neighborhoods and is formed by a dammed stream that once powered the Springfield Armory's "watershops." In addition to these features, there are a number of smaller ponds in Springfield some of which are used for fishing or swimming. Springfield also owns the Cobble Mountain Reservoir, the city's water supply, that is located in Blandford, Granville, and Russell.

Springfield shares borders with Longmeadow and East Longmeadow to the South, Wilbraham to the East, and Ludlow and Chicopee to the North. Agawam and West Springfield sit to the West across the river.

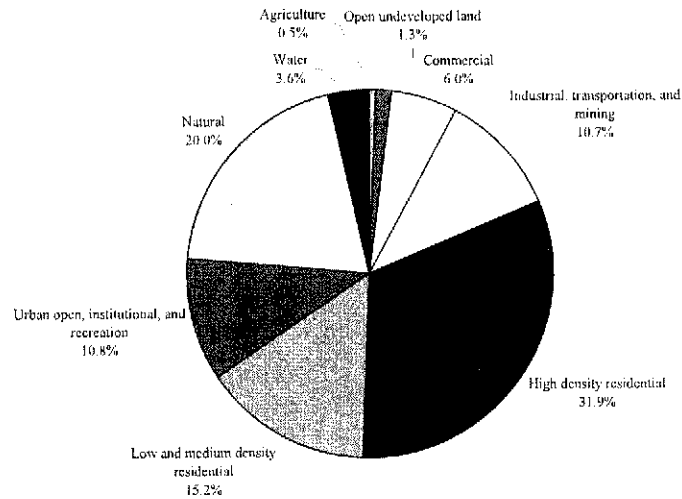
As of 1999, about 74.4 percent of Springfield's total area (including water) was developed. Of the remaining undeveloped land, about 76.0 percent was forest. As with most cities, Springfield's primary form of land use is residential, with 47.1 percent of Springfield's area devoted to residential uses, and 31.9 percent particularly used for high density residential properties. Commercial and industrial uses occupy 16.7 percent of Springfield's area. Urban open space and institutional land, including Springfield's four colleges, cover about 10.8 percent of Springfield's land.

Examining change between 1971 and 1999, there was an increase of 14.7 percent in the number of acres devoted to industrial uses. Also growing substantially were commercial uses, a 10.2 percent increase in acres between 1971 and 1999. High density and low or medium density residential use also increased by about 6 percent. Between 1971 and 1999, agricultural land in Springfield was the primary loser, with acreage devoted to agriculture declining by 23.8 percent. Natural land and undeveloped open land also lost acres, dropping by 17.8 and 15.7 percent respectively.

## A Demographic and Economic Analysis of the City of Springfield

**Figure 1**

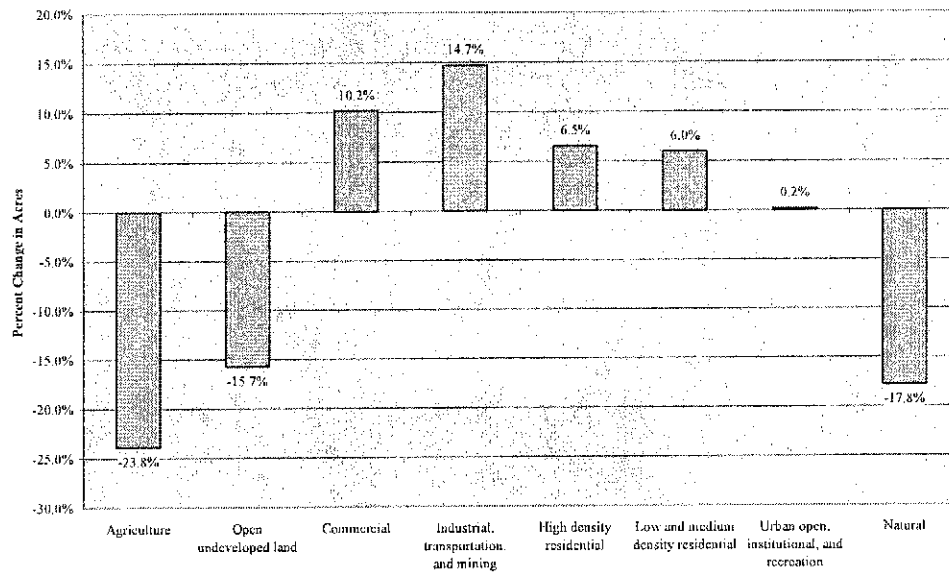
**Land Use by Type in Springfield, 1999**



Source: Massachusetts Geographic Information Systems.

**Figure 2**

**Change in Acreage by Land Use Type in Springfield, 1971-1999**



Source: Massachusetts Geographic Information Systems.



## A Demographic and Economic Analysis of the City of Springfield

### A Brief History of Springfield

Springfield was the first town west of Boston, Cambridge, and Watertown to be settled in Massachusetts. The city was established in 1636 at the juncture of the Agawam and Connecticut Rivers by English colonist William Pynchon, who at the time was the assistant treasurer of the Massachusetts Bay Colony. Land was purchased from Native Americans for the establishment of a trading post and the town was incorporated in 1641, taking the name from Pynchon's birthplace in England. The land purchased by Pynchon covers what are now the communities of Agawam, Longmeadow, Springfield, and West Springfield. Pynchon was most notable for establishing a trading post just below the Enfield rapids in Connecticut, called Warehouse Point, where cargo was unloaded and portaged either by land or river to the north. Springfield soon became the primary distribution point for agricultural goods, furs, and meat products moving in and out of the Valley.

Trade flourished, particularly with Hartford, enabling Springfield to become the commercial and political center of the lower Connecticut Valley region. In 1723, the first courthouse in Hampden County was built in Springfield, enhancing its political importance. Early industrialization in the area began in the form of small mills run by water power. Following the collapse of the fur trade, agricultural produce and livestock began to be transported to Springfield in return for manufactured and processed goods. By 1775, Springfield established a paper mill, pottery manufactory, and rum distillery. In 1750, the nation's first canal was built in Holyoke to circumvent the falls there. Canal and water power would be just one integral key in the success of manufacturing throughout the region.

In the 1770s, George Washington selected Springfield as the site for the United States Armory; its location was far from the coast and enemy ships, and provided access to major east-west roads. The Armory produced weapons for the Armed Forces throughout its history. In 1787 poor farmers attempted to seize the Armory and its weapons in order to prevent the Commonwealth of Massachusetts from seizing their lands in what became known as Shays' Rebellion. During the Civil War, the loss of Harper's Ferry to Confederate forces resulted in Springfield serving as the main arms supplier for the Union Army which primarily used the "Springfield Rifle."

The establishment of the national arsenal as a major depot for weapons and ammunition began Springfield's history as a center of metal manufacturing. Innovative weapons manufacturing and technological advances such as the invention of the gun lathe led to other types of metal manufacturing in the city, among these the bicycle, motorcycle, and for a time the automobile. The first ever gasoline powered car, the Duryea Motor Wagon, was produced in Springfield and appeared on the streets of Springfield in 1893. In 1852 the handgun maker Smith and Wesson was founded in Springfield and remains headquartered there. In 1901, the Indian Manufacturing Company produced America's first brand of motorcycles in Springfield. The new companies, many of them started by former Armory workers, attracted skilled workers to the city. Workers came to Springfield from the surrounding rural communities and from overseas. The first wave of Irish immigrants came in 1839, followed by the French Canadians who were attracted to work in textile mills. During the heights of the industrial period, Springfield's population swelled from 15,200 persons in 1870 to 73,484 persons in 1905.

Manufacturing in Springfield and the surrounding region was further strengthened by the arrival of the railroad. The railroad in Springfield began as part of the line between Boston and Albany, opening for business between Worcester and Springfield in 1839. Prior to the coming of

### A Demographic and Economic Analysis of the City of Springfield

the railroad, freight was moved up and down the Connecticut River on barges navigating from Old Saybrook, Connecticut to as far north as Wells River, Vermont. By 1845 railroads from Springfield expanded to the north, south, and west. With the arrival of the steamship, competition for passengers and freight increased significantly between Springfield and Hartford.

Springfield's role as the commercial center of manufacturing in the Connecticut River Valley enabled the city to develop strong financial institutions, for which the city is still known. According to some, it was the strength of the city's financial institutions that enabled the growth of Springfield's industry and prosperity. In 1849 the Springfield Fire and Marine Insurance Company was founded, and in 1851 the Massachusetts Mutual Life Insurance Company was founded, both organized by citizens of Springfield. The city was also unique in the early establishment of a Board of Trade. By 1905, the city was home to eight national banks, two trust companies, and three savings banks. To this day the Massachusetts Mutual Life Insurance Company employs nearly 4,000 people at its Springfield headquarters and is a Fortune 100 company with more than 13 million clients and \$395 billion in assets under management.

Unlike other cities where workers were housed in cramped, tenement style houses, most workers in Springfield lived in single-family homes. By the 1870's the streetcar was established in Springfield and the sixty-eight miles of line enabled the development of Springfield's neighborhoods and outer suburbs, and the city had one of the highest rates of home ownership in the nation. Springfield was given the nickname the City of Homes in the late 19th Century as a result of the construction of numerous Victorian mansions as well as the multitude of single-family homes for manufacturing workers.

During the Depression and World War II, little construction took place and marked the beginning of a period of decline. Manufacturing began to shift elsewhere; factories closed, and workers were laid-off. The closure of the Armory in 1968 was a blow to the city's economic and manufacturing base. Many of these workers retired to more rural areas, and the abundant housing became a destination for poor African American migrants from the South. Eventually, some of the old neighborhoods began to become blighted.

Like many other cities at the time, Springfield embarked on a period of Urban Renewal, financed greatly by the federal government. By the end of the 1960's the Springfield Redevelopment Authority tore down 2,100 housing units, closed 355 businesses and relocated another 500 businesses, to the dismay of many city residents. The new development that emerged in place of the old immigrant neighborhoods was large in scale, facilitated by an increased dependence on the automobile. At the same time Interstate Highways 91 and 291 were finished in 1970, adding to the large-scale changes taking place.

Today, Springfield is still challenged by manufacturing's gradual decline in the City. Nevertheless, its fundamental assets remain; among others, its strategic location in the Knowledge Corridor of what is now known as the Pioneer Valley. In addition, the Springfield Quadrangle is a visual and decorative arts showpiece of New England. One of Springfield's most notable assets is that it was the birthplace of basketball. In 1891 James Naismith invented the sport at the Springfield YMCA in Mason Square as an indoor sport for the winter months. In 1968 the city became home to the Basketball Hall of Fame, with a brand-new Basketball Hall of Fame opened in 2002. In 2006 the state legislature and Governor made basketball the official state support in honor of its invention in Springfield.<sup>1</sup>

<sup>1</sup> Sources: [www.cityofspringfieldma.com](http://www.cityofspringfieldma.com), [www.wikipedia.com](http://www.wikipedia.com), [www.massmutual.com](http://www.massmutual.com), all downloaded 8/7/2006; *Springfield- Massachusetts Pioneer Valley New England*, Massachusetts Department of Commerce and Development, Springfield Central, publishers 1985; O'Connell, James C. *Inside Guide to Springfield and the Pioneer Valley*, Western Mass Publishers, Springfield, MA, 1986; Gardner, Eugene C. et al *Springfield Present and Prospective*, Pond & Campbell Publishers, Springfield, MA, 1905; and, *Historic and Archaeological Resources of the Pioneer Valley*, Massachusetts Historical Commission, Office of the Massachusetts Secretary of State, 1984.

**A Demographic and Economic Analysis of the City of Springfield****People in Springfield****Demographics**

Between 2000 and 2004 Springfield's pattern of little population change, evident in the 1990s, continued. Not only is the size of Springfield's population relatively stable, Springfield's residents are also relatively intransient. In all five years from 2000 to 2004, the percentage of Springfield's population residing in the same as during the current year as in the prior year never fell below 80 percent. Furthermore, in 2004 96 of every 100 Springfield residents were living in Massachusetts in 2003.

Over one-fourth of Springfield's population is under the age of 18, reflecting the reality that the city has a much younger age distribution than Massachusetts as a whole. For example, nearly nine percent of Springfield's population in 2004 were between the age of 10 and 14, compared to less than seven percent of Massachusetts' population.

In 2004, Springfield's population was slightly less than 45 percent white, with a bit more than 20 percent of residents identifying as African American and a little more than 30 percent identifying as Hispanic or Latino. While the Asian population of Springfield is small in percentage terms, generally between two and three percent, the Vietnamese community in Springfield is well-established in several neighborhoods.

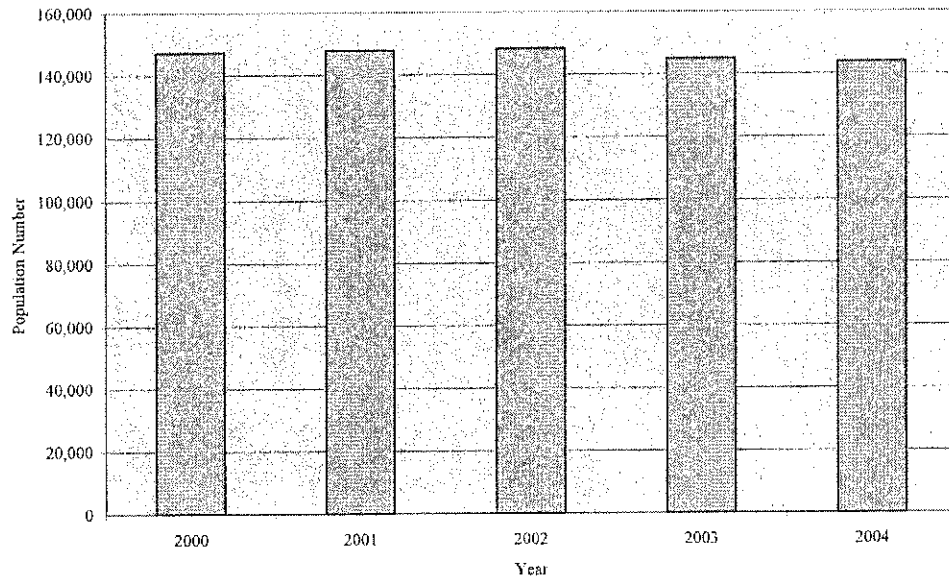
Hispanics and blacks have a significantly higher percentage of population under 18 years of age compared to whites. In addition, the percentage of whites aged 65 years and older is over two times that of blacks and almost four times when compared to Hispanics. The aging of Springfield's white population and the large number of black and Hispanic young people in the city suggest that black and Hispanic young people of Springfield will be the future adult residents and leaders of the city.

While about two-thirds of Springfield's population primarily speaks English at home, it is an important reality that 23.9 percent of Springfield's population speaks Spanish at home and another 7.5 percent speak another language at home.

# A Demographic and Economic Analysis of the City of Springfield

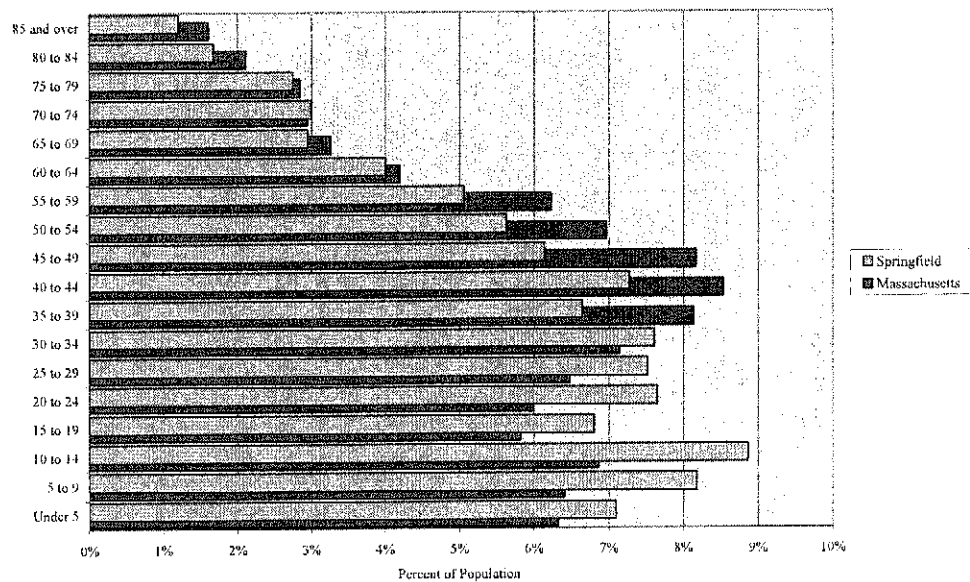
**Figure 3**

**Springfield's Total Population**



**Figure 4**

**Percent of Population by Five-Year Age Groups, 2004**

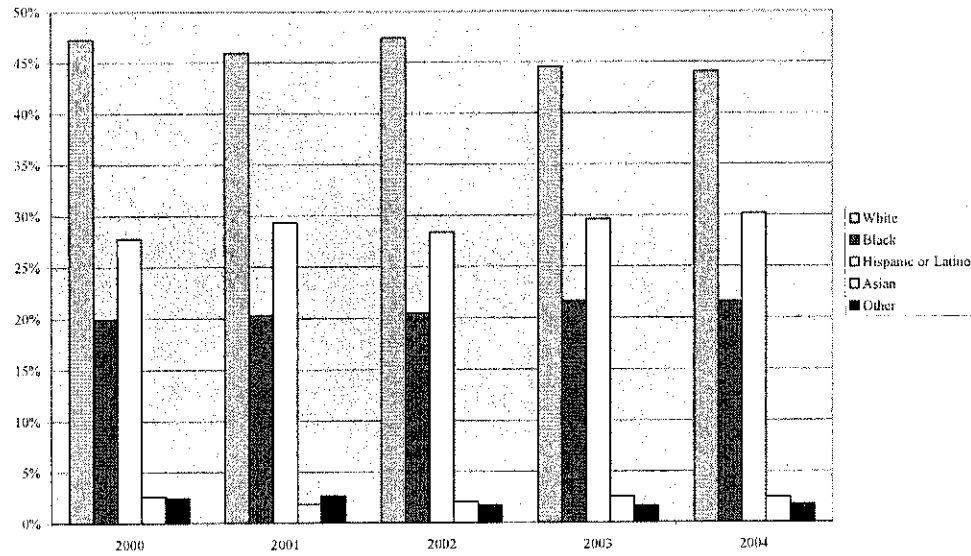




# A Demographic and Economic Analysis of the City of Springfield

**Figure 5**

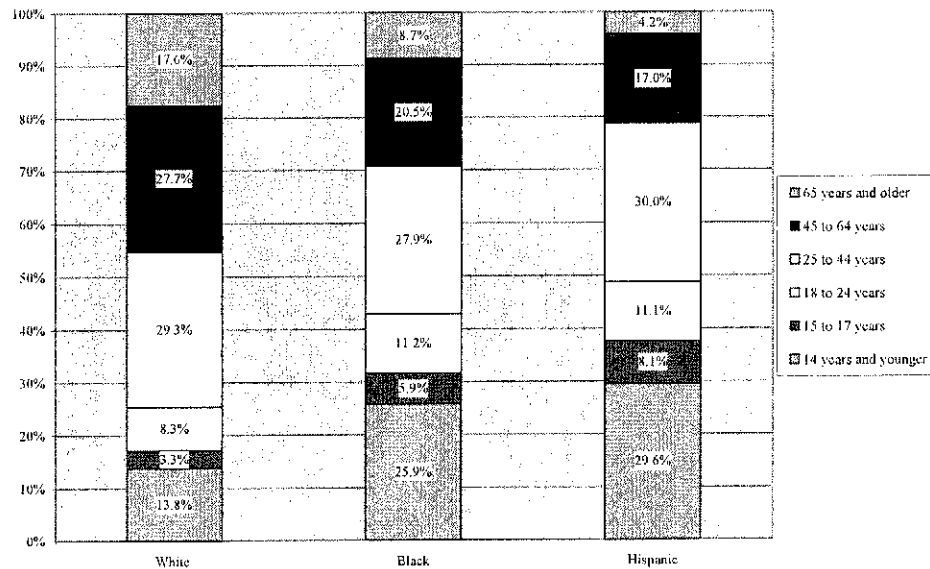
**Racial Composition of the City of Springfield**



Source: U.S. Census Bureau, American Community Survey.

**Figure 6**

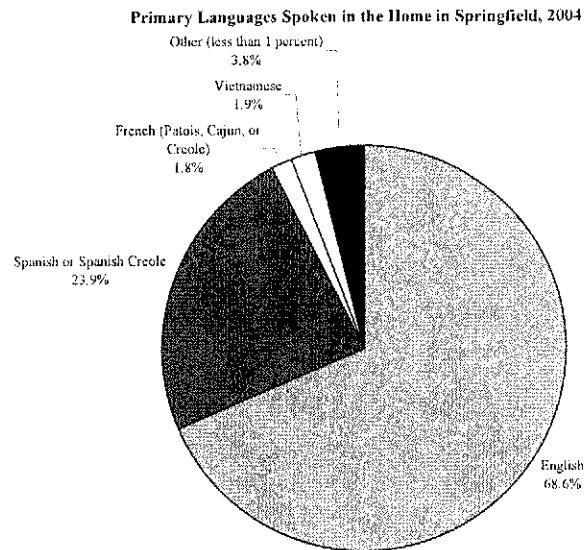
**Age Distributions of the Springfield Population by Race, 2004**



Source: U.S. Census Bureau, American Community Survey.

**A Demographic and Economic Analysis of the City of Springfield**

**Figure 7**



Source: U.S. Census Bureau, American Community Survey.

## A Demographic and Economic Analysis of the City of Springfield

### Family Structure, Economics, and Education

Married couple-families and households headed by single-females are the most common family structures in Springfield, with about 49.8 percent of families being married couples and 39.8 percent of families headed by a single female. That two of every five families in Springfield are headed by a single female is troubling in light of the evidence that children in that circumstance often face additional challenges. This point is amplified by the reality that the median family income of families headed by a single female remained below \$20,000 for every year from 2000 to 2004. In contrast, the median family income of married couple families is generally just below or above \$50,000 per year.

Statistics of Springfield's school children further amplify the difficult economic conditions facing Springfield families. While across the state the average percentage of public school students considered low-income has hovered around one quarter, more than three-quarters of Springfield students are considered low-income.

The majority of individuals in Springfield over the age of 25 only have a high school education. Perhaps most troubling, nearly one-quarter of Springfield's adult population in 2004 had not completed high school. Furthermore, 15.7 percent of Springfield's adult population has a less than 10<sup>th</sup> grade education. Of the more than a third of the city's adult population that have participated in any higher education, less than half have a bachelors degree. In Springfield, in 2004, only 17.5 percent of adults had completed a bachelors degree, compared to more than a third of adults across Massachusetts.

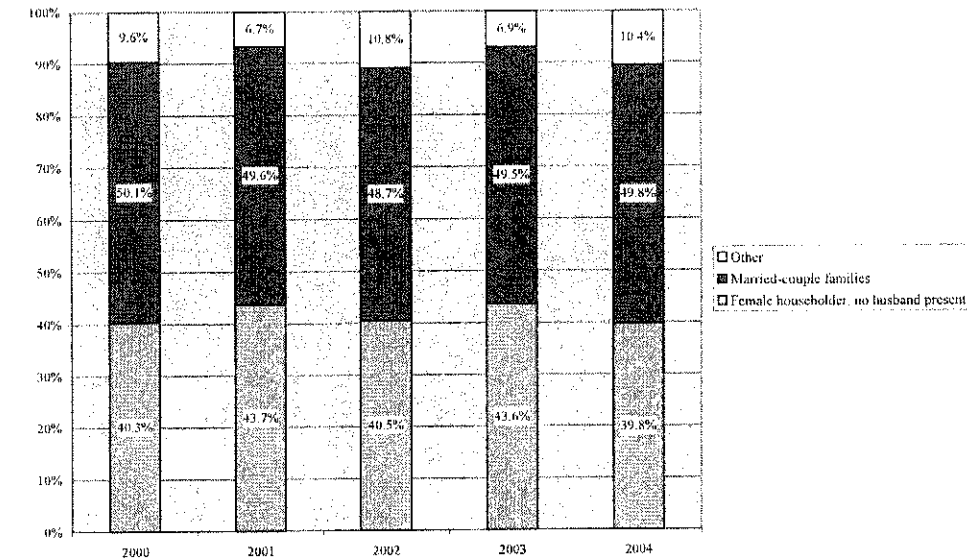
White males and females seem stable in there education patterns. They have one of the largest populations with bachelors and higher degrees. White males in particular have the largest population with such degrees. Black males and females in Springfield, although their education pattern is more variable, also have a significant percentage of their population with bachelor's degrees or higher. Black males and females are comparable to white females in their obtainment of these degrees.

It is the Hispanic population, however, that is behind the white and black population in higher education. While bachelor's degrees have been increasing among Hispanic males, so has the number of Hispanic males without a high school diploma, which sharply increased by 11.9 percent from 2003 to 2004. There has not been much change in the percentage of Hispanics, male and female, who receive graduate degrees. On average, 1.5 percent of Hispanic males and 1.9 percent of Hispanic females obtain graduate degrees. This is much less than whites and blacks. Because Springfield's Hispanic population is the second largest and fastest growing population, it is imperative that the city improve educational opportunities and outcomes for Hispanic young people. Without such an effort the percentage of Springfield's total population with college degrees will fall as the demographics of the population change.

## A Demographic and Economic Analysis of the City of Springfield

Figure 8

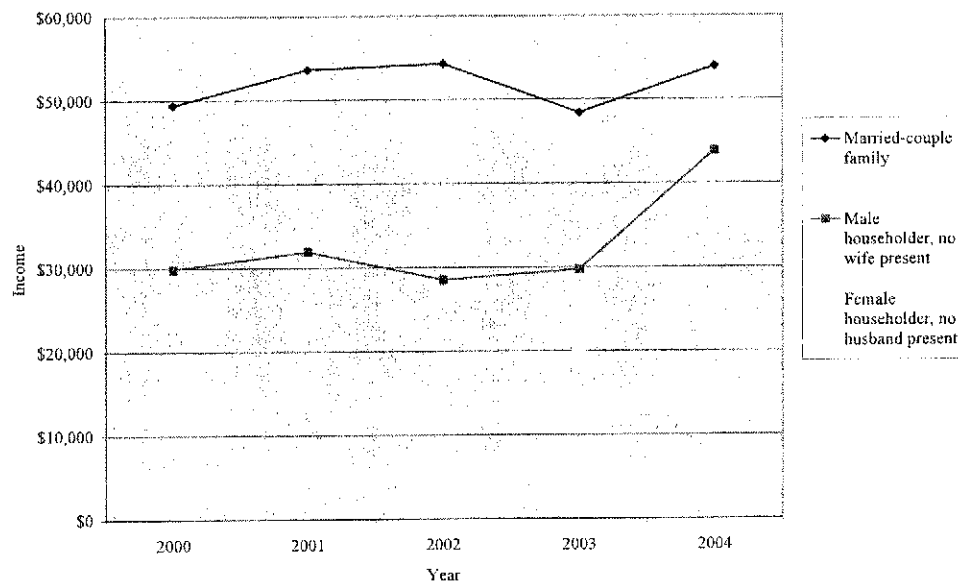
Percentage of Families in Springfield by Family Structure



Source: U.S. Census Bureau, American Community Survey.

Figure 9

Median Income by Family Type in Springfield

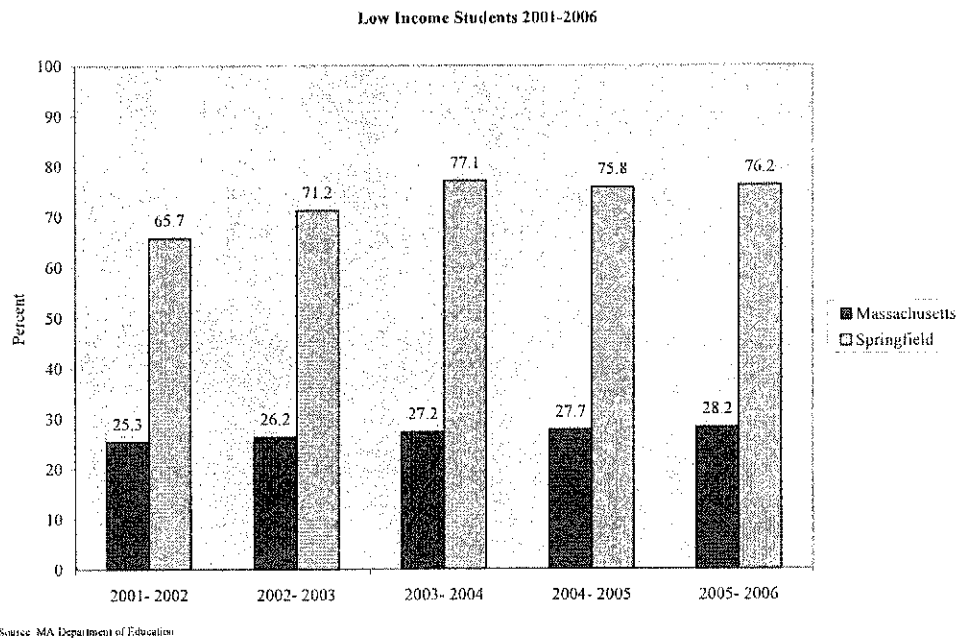


Source: U.S. Census Bureau, American Community Survey.

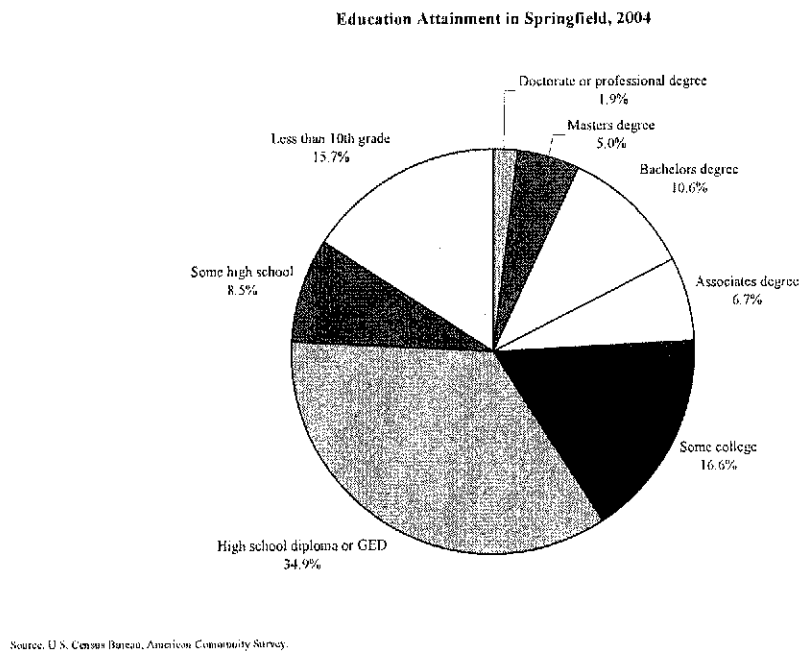


# A Demographic and Economic Analysis of the City of Springfield

**Figure 10**



**Figure 11**



## A Demographic and Economic Analysis of the City of Springfield

### Family Incomes

To understand Springfield's recent history, and the extent of poverty, it is necessary to examine the longer-term trend with respect to family income. Two socio-historical events appear to have conspired to lower the income of Springfield's population. First, when the Springfield Armory closed in the 1960s, it left a significant employment vacuum in the city and heralded the beginning of a decline in the number of manufacturing jobs in the city and region (at least manufacturing jobs with large-scale employers). This change was significant because manufacturing had been one of the key employment opportunities that enabled people to reach the middle class even with a limited educational background.

Second, with an increasing pace of housing development in suburban and previously rural communities outside Springfield, many of Springfield's most financially secure families moved out of the city for new houses, more land, newer infrastructure, or any of a number of other reasons. This out-migration from Springfield left the city occupied by those most negatively impacted by the departure of manufacturing jobs. Furthermore, Springfield, like Holyoke to the North, continued to draw new immigrants with low incomes and limited skills. While such immigrants to the city previously found manufacturing jobs, such positions were in shorter supply.

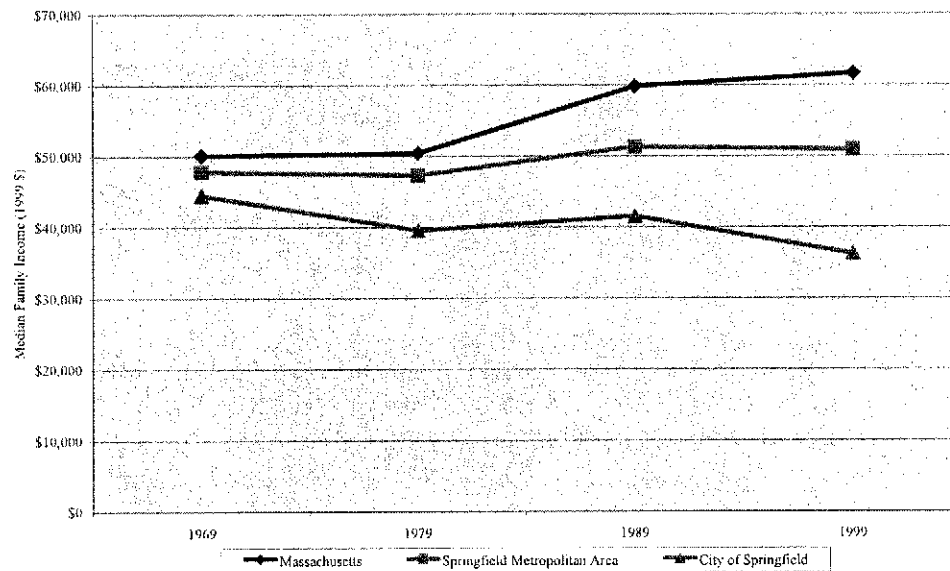
The impact of the Armory's closure, the slow reduction in the number of manufacturing jobs, and the out-migration of the city's wealthiest families is evident in an analysis of Springfield's median family income between 1969 and 1999. After adjusting all dollar figures for inflation (into 1999 dollars), we find that Springfield's median family income fell from \$44,472 in 1969 to \$36,285 in 1999 (a decline of 18.4 percent). This trend of declining real family incomes would not be nearly as problematic if that was the case everywhere; however, both the state of Massachusetts and the Springfield metropolitan area experienced increases in median family income during this period. For example, the median family income in Massachusetts increased by 23.0 percent during this time. While the Springfield metropolitan area's median family income increased by only 6.5 percent during this period, the increase for the communities around Springfield would be much higher because the metropolitan area number is brought lower by Springfield which accounts for a quarter of the area's population.

Even before 1969, as a working class city dominated by manufacturing, Springfield's family incomes were lower than those in Massachusetts as a whole, but the gap was not nearly so wide. In 1969, the median family income in Springfield was 88.7 percent of the median family income in Massachusetts. By 1999, the median family in Springfield had an income that was only 58.8 percent of that of the median family in Massachusetts. To understand the financial challenges facing Springfield's families, and by extension the city as a whole, imagine a typical family purchasing necessary goods and services with an annual income of \$36,285 compared to neighbors in nearby communities having more than \$50,000 at their disposal for the same necessities.

## A Demographic and Economic Analysis of the City of Springfield

**Figure 12**

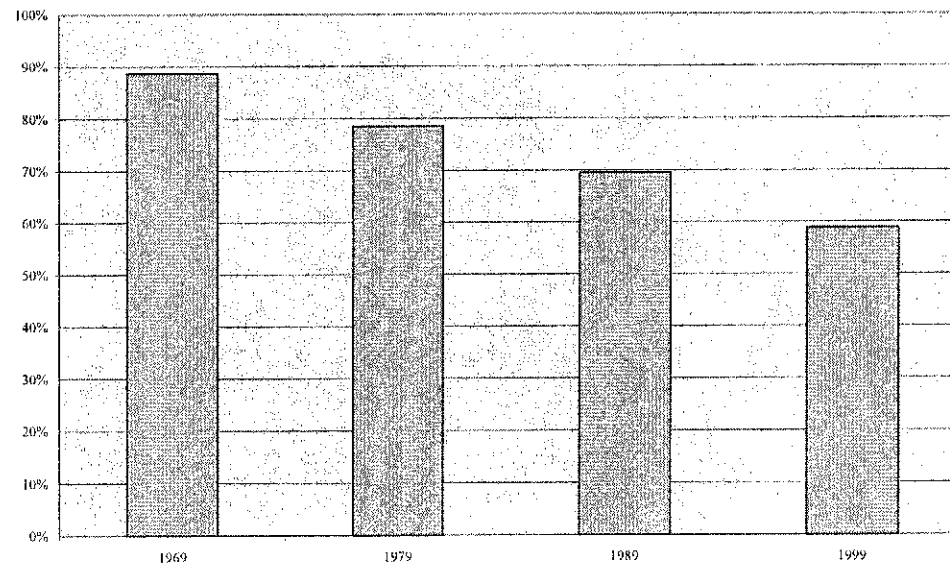
Median Family Income in Constant 1999 Dollars, 1969-1999



Source: U.S. Census Bureau, 2000, 1990, 1980, and 1970 Census

**Figure 13**

Springfield Median Family Income as a Percentage of Massachusetts Median Family Income, 1969-1999



Source: U.S. Census Bureau, 2000, 1990, 1980, and 1970 Census

## A Demographic and Economic Analysis of the City of Springfield

### Labor Force

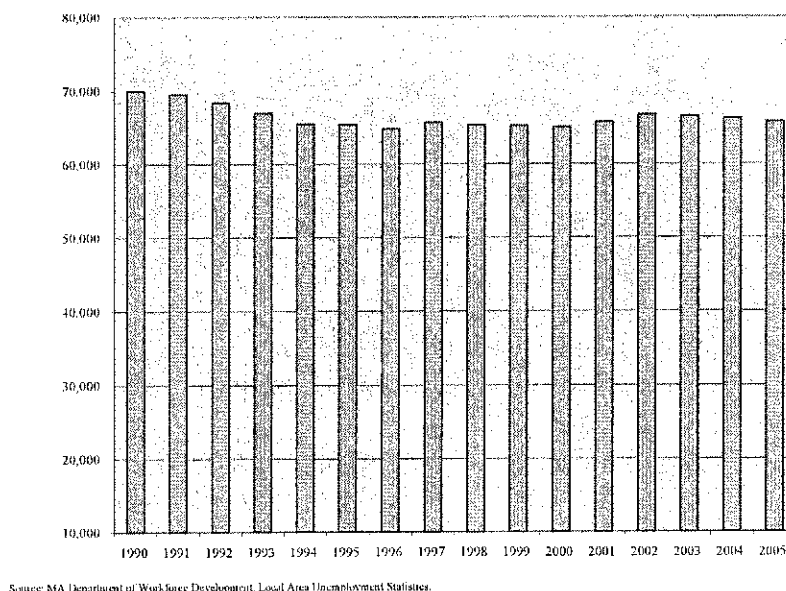
The total number of Springfield residents in the labor force (either working or looking for work) has fluctuated between 64,801 and 69,961 over the last 16 years and the overall trend is a slightly declining labor force. Between 1990 and 2005 the size of Springfield's labor force fell by 6.0 percent. A slight majority of Springfield's labor force, 51.0 percent, is male.

The unemployment rate in Springfield has had recent peaks in 1991 and 2003, both during national economic recessions. Unfortunately, for most of the last fifteen years, the unemployment rate in Springfield has remained at least two percentage points higher than that of Massachusetts as a whole.

During the first six months of 2006 Springfield had an unemployment rate fluctuating between 8.2 and 7.4 percent. As usual the unemployment rate in Massachusetts was about two percentage points lower than that of Springfield.

**Figure 14**

Springfield Labor Force, 1990-2005



**Table 1: Gender of Springfield's Labor Force, 2004**

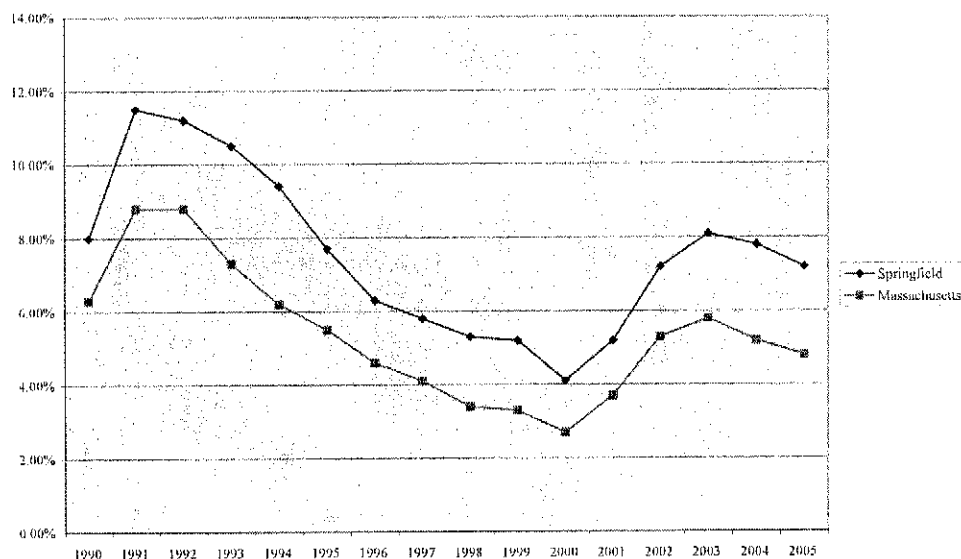
	Number In Labor Force	Percentage
Entire Population	70,188	100.0%
Male	35,827	51.0%
Female	34,361	49.0%

Source: U.S. Census Bureau, American Community Survey.

## A Demographic and Economic Analysis of the City of Springfield

Figure 15

Unemployment Rate, 1990-2005



Source: MA Department of Workforce Development, Local Area Unemployment Statistics

Table 2: Springfield Labor Force, Employment, and Unemployment, 1990-2005

	Labor Force	Employed	Unemployed	Unemployment Rate	Massachusetts Unemployment Rate
1990	69,961	64,373	5,588	8.0%	6.3%
1991	69,520	61,502	8,018	11.5%	8.8%
1992	68,421	60,743	7,678	11.2%	8.8%
1993	66,926	59,891	7,035	10.5%	7.3%
1994	65,426	59,274	6,152	9.4%	6.2%
1995	65,418	60,372	5,046	7.7%	5.5%
1996	64,801	60,729	4,072	6.3%	4.6%
1997	65,677	61,863	3,814	5.8%	4.1%
1998	65,295	61,819	3,476	5.3%	3.4%
1999	65,165	61,764	3,401	5.2%	3.3%
2000	65,025	62,331	2,694	4.1%	2.7%
2001	65,663	62,235	3,428	5.2%	3.7%
2002	66,679	61,863	4,816	7.2%	5.3%
2003	66,516	61,100	5,416	8.1%	5.8%
2004	66,184	61,014	5,170	7.8%	5.2%
2005	65,773	61,008	4,765	7.2%	4.8%

Source: MA Department of Workforce Development, Local Area Unemployment Statistics.

## A Demographic and Economic Analysis of the City of Springfield

Table 3: Springfield Monthly Unemployment Rates, 2006

Month	Labor Force	Employed	Unemployed	Unemployment Rate	Massachusetts Unemployment Rate
Jan 06	65,504	60,172	5,332	8.1%	5.3%
Feb 06	65,695	60,351	5,344	8.1%	5.5%
Mar 06	65,765	60,389	5,376	8.2%	5.4%
Apr 06	65,071	60,283	4,788	7.4%	4.7%
May 06	65,598	60,710	4,888	7.5%	4.7%
Jun 06	66,750	61,601	5,149	7.7%	5.1%
Average	65,730	60,584	5,146	7.8%	5.1%

Source: MA Department of Workforce Development, Local Area Unemployment Statistics.



## A Demographic and Economic Analysis of the City of Springfield

### Occupations of Springfield Residents

Over a quarter of the Springfield's working population are employed in sales and office related occupations. The majority of these deal with office and administrative support. The next largest category, which makes up nearly another quarter of total workers from Springfield, are management, professional, and other related fields. Under this field, most deal with professional and related occupations, such as computers and mathematics, architecture and engineering, community and social services, law, and life, physical, and social sciences. The third largest occupational area for Springfield residents is service. Most service workers deal with healthcare support as home health aides or nurses.

The three largest occupational fields of Springfield residents are also the three largest fields for all residents of Hampden County. However, 31.2 percent of Hampden County workers are in management, professional, and related fields, compared to only 24.5 percent of Springfield workers. The percentage of those in the sales and office field in Hampden County is nearly equal to that in Springfield. Among Hampden County workers employed in service occupations, the dominant occupation is food preparation and serving, unlike Springfield where the dominant service occupations are in health care.

Among Springfield workers, females dominate the three largest occupational areas already discussed while men are predominant in production, transportation, & material moving and construction, extraction, & maintenance occupations. More of Springfield's women workers are employed in sales and office occupations than any other category, while more men are employed in production, transportation, and material moving occupations than other fields.

Approximately, 57.6 percent of those who work in service occupations work part-time. This is the only occupational group where those working part-time exceed those working full-time. Springfield residents work full-time at about 63.0 percent of jobs. Jobs that tend to require more experience or training are most likely to be full-time. For example, 89.1 percent of legal occupations and 77.3 percent of management occupations are full-time.

Occupations for which a majority of Springfield workers are male tend to have more full-time than part-time employment. Consequently, male workers from Springfield account for 57.9 percent of Springfield residents employed full-time. While females are a majority of those working in management, professional, and related fields, male workers are more than half the full-time workers in the occupation.

Whites dominate the labor force, especially in sales and office and management, professional, and related occupations. A plurality of Springfield's Hispanic workers work in a service occupation. Many black workers are in management, professional and related industry occupations; however, an almost equal number of black workers are found in service occupations.

In Springfield, as is also true in Hampden County as a whole, most residents employed in a management, professional, or related occupation or in a service occupation are working for employers in the educational services or health care and social assistance industries. Residents in sales and office occupations are most heavily employed by the retail trade industry, unlike Hampden County where many workers are employed in the wholesale trade industry. Workers in construction, extraction, maintenance and repair occupations are overwhelming, and unsurprisingly, employed by the construction industry, while those workers in production, transportation, and material moving occupations are employed in manufacturing.

### A Demographic and Economic Analysis of the City of Springfield

While Hampden County and Springfield have similar distributions of workers employed using particular occupations in particular industries, Springfield tends to have more workers serving in lower-wage occupations than is true for Hampden County as a whole. For example, while both areas have a substantial number of residents employed in the educational services and health care and social assistance industries, Hampden County has a larger share of workers in these industries who are in management, professional, and related occupations, while Springfield's workers in these industries tend to be more heavily concentrated in service occupations. This suggests, consistent with lower levels of overall educational attainment, that Springfield's residents are serving in the lower-level occupational positions in the education and health care industries that are key to the regional economy.

**Table 4: Occupations of Springfield Residents Relative to Hampden County Residents, 2004**

*An index greater than 1.0 indicates that an occupation is more prevalent among Springfield residents than among Hampden County residents overall; an index below 1.0 indicates an occupation is less prevalent among Springfield residents than among residents of Hampden County overall.*

	Hampden County	Springfield	Concentration Index
<b>Management, professional, and related</b>	<b>31.22%</b>	<b>24.46%</b>	<b>0.783</b>
Management, business, and financial	10.68%	6.75%	0.632
Management	7.00%	4.32%	0.618
Business and financial operations	3.68%	2.43%	0.659
Professional and related	20.54%	17.71%	0.862
Computer and mathematical	1.41%	1.54%	1.095
Architecture and engineering	1.77%	1.55%	0.875
Life, physical, and social science	0.86%	0.84%	0.986
Community and social services	1.86%	2.26%	1.211
Legal	1.09%	1.01%	0.929
Education, training, and library	6.74%	5.55%	0.823
Arts, design, entertainment, sports, and media	1.66%	1.39%	0.833
Healthcare practitioner and technical	5.15%	3.57%	0.693
<b>Service</b>	<b>18.70%</b>	<b>23.51%</b>	<b>1.257</b>
Healthcare support	3.50%	6.11%	1.745
Protective service	2.58%	2.85%	1.108
Food preparation and serving related	5.66%	5.50%	0.973
Building and grounds cleaning and maintenance	3.54%	3.45%	0.976
Personal care and service	3.43%	5.59%	1.629
<b>Sales and office</b>	<b>25.60%</b>	<b>25.69%</b>	<b>1.004</b>
Sales and related	11.26%	11.04%	0.981
Office and administrative support	14.34%	14.65%	1.022
<b>Farming, fishing, and forestry</b>	<b>0.82%</b>	<b>2.27%</b>	<b>2.755</b>
Agricultural workers including supervisors	0.82%	2.27%	2.755
<b>Construction, extraction, maintenance, and repair</b>	<b>8.02%</b>	<b>6.68%</b>	<b>0.833</b>
Construction and extraction	4.08%	3.52%	0.862
Installation, maintenance, and repair	3.94%	3.16%	0.803
<b>Production, transportation, and material moving</b>	<b>15.63%</b>	<b>17.39%</b>	<b>1.113</b>
Production	9.80%	11.97%	1.221
Transportation and material moving	5.83%	5.42%	0.931



### A Demographic and Economic Analysis of the City of Springfield

Source: U.S. Census Bureau, American Community Survey.

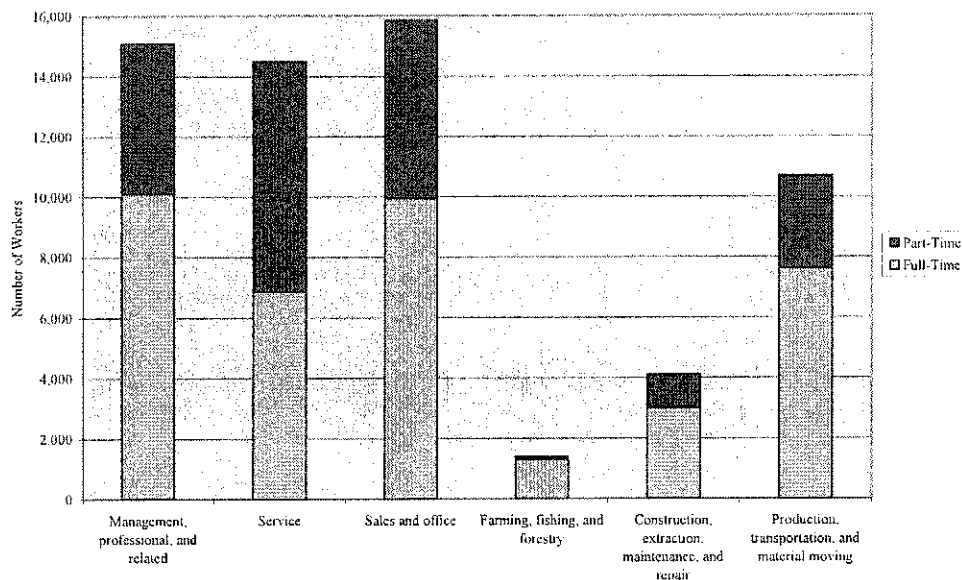
**Table 5: Occupations of Springfield Residents by Gender, 2004**

Occupation	Male	Female	Total
Management, professional, and related	6,384	8,696	15,080
Service	6,144	8,351	14,495
Sales and office	5,745	10,097	15,842
Farming, fishing, and forestry	1,310	88	1,398
Construction, extraction, maintenance, and repair	4,044	76	4,120
Production, transportation, and material moving	7,841	2,882	10,723

Source: U.S. Census Bureau, American Community Survey.

**Figure 16**

Occupations of Springfield Residents by Full versus Part-Time, 2004



Source: US Census Bureau, American Community Survey.

**Table 6: Occupations of Springfield Residents by Race or Ethnicity, 2004**

Occupation	White	Black	Latino
Management, professional, and related	9,522	3,210	1,981
Service	5,744	3,188	5,390
Sales and office	9,750	3,114	2,707
Farming, fishing, and forestry	-	88	1,398

## A Demographic and Economic Analysis of the City of Springfield

Occupation	White	Black	Latino
Construction, extraction, maintenance, and repair	2,899	869	294
Production, transportation, and material moving	4,839	2,104	2,477
Total	32,754	12,573	14,247

Source: U.S. Census Bureau, American Community Survey.

Table 7: Occupations of Employed Springfield Residents by Industry, 2004

Industry	Total	Manage., Profess., and Related	Service	Sales and Office	Fishing, Farming, and Forestry	Const., Extract., Maintain. and Repair	Prod., Trans., and Material Moving
Agriculture, forestry, fishing and hunting, and mining	1,454	56	0	0	1,398	0	0
Construction	2,531	93	139	57	0	2,242	0
Manufacturing	8,355	1,040	142	696	0	159	6,318
Wholesale trade	2,254	229	0	1,288	0	296	441
Retail trade	6,179	408	329	4,680	0	248	514
Transportation and warehousing, and utilities	3,747	792	56	1,000	0	318	1,581
Information	1,209	335	0	423	0	451	0
Finance and insurance, and real estate and rental and leasing	3,960	1,580	61	2,106	0	0	213
Professional, scientific, and management, and administrative and waste management services	4,284	1,624	901	1,110	0	0	649
Educational services, and health care and social assistance	15,725	6,763	6,444	2,006	0	0	512
Arts, entertainment, and recreation, and accommodation and food services	5,415	570	3,417	1,296	0	0	132
Other services, except public administration	3,366	428	1,553	915	0	284	186
Public administration	3,179	1,162	1,453	265	0	122	177
Total	61,658	15,080	14,495	15,842	1,398	4,120	10,723

Source: U.S. Census Bureau, American Community Survey.

## A Demographic and Economic Analysis of the City of Springfield

### Education in Springfield

#### Springfield Public Schools

##### *Enrollment*

According to the Massachusetts Department of Education, 25,311 students were enrolled in the Springfield Public Schools during the 2005-2006 academic year. The 43 Springfield public schools operated by the district include 32 elementary schools, six middle schools, four secondary schools, and one school that spans both middle school and high school grades. In addition, the district operates four alternative schools and an adult general equivalency degree program, and provides funds and transportation to three charter schools operated independently.

The enrollment of Springfield Public Schools has remained relatively steady over the past 12 years. Elementary school enrollment has fluctuated slightly but has generally hovered around 10,199. Middle and high school enrollments have also remained steady, generally staying close to 5,600 and 6,300 respectively. The lack of enrollment growth can be seen as a reflection of Springfield's stagnant population growth rate over the same period of time.

In the area of kindergarten and pre-kindergarten education, the number of children enrolled in kindergarten was at 1,976 in 2005, reflecting an eight percent increase in five years time. Although the overall enrollment in pre-kindergarten programs has risen since 1994, a 23 percent decline in enrollment can be seen from 2001 to 2005, despite the increased demand for accessible pre-kindergarten programs. This suggests either a decrease in the number of program slots available for children or an overall decrease in the number of pre-kindergarten-age children in the city and it is likely the former.

Demographically, Springfield schools have seen a 13 percent decrease in the enrollment of white students over the past 12 years. At the same time the Hispanic student population has increased by 13.2 percent, while the African American student population declined by 4.2 percent. In 2005, overall, the share of Springfield's enrollment consisting of students of color was about three times that of the state of Massachusetts.

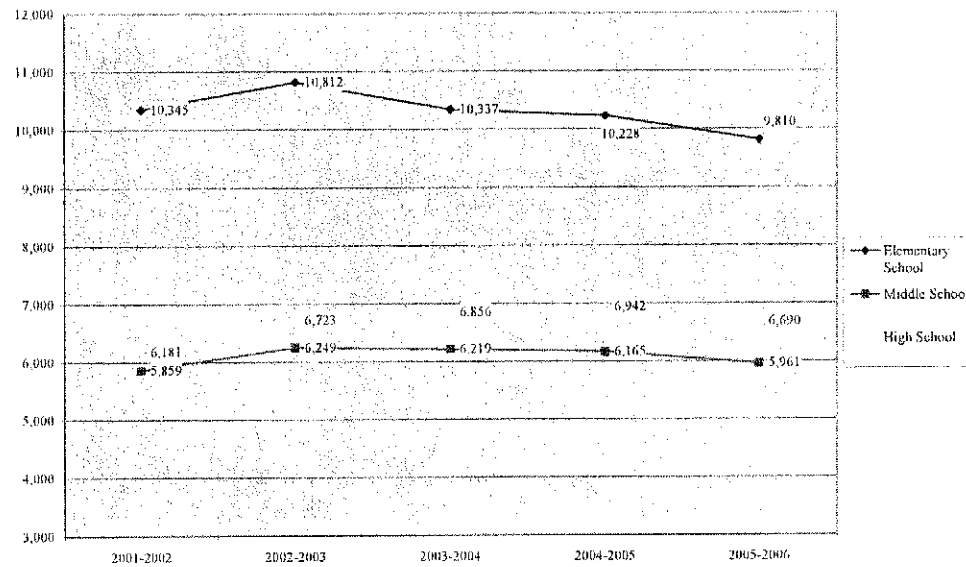
The percentage of students who are limited English proficient in the Springfield Public Schools has varied over the past decade, but generally the rate has been at least double that of Massachusetts, with 13.7 percent of students meeting such a classification in 2005. A similar varied but recently growing trend can be seen in the population of students whose first language is not English. Although the overall percentage of students in this category showed a decline from 1994 to 2002, the numbers are again on the rise in correspondence with a statewide rise in students fitting this description. During the 2005-2006 school year 20.3 percent of Springfield's student population reported their first language as one other than English.

Springfield has also seen an increase in the number of special needs students it services. AS of 2005, 20.5 percent of Springfield's student population requires some sort of special needs service, which reflects a 4.5 percentage point increase from 1994. During that time period the state average for percent of students requiring special needs services fell by 0.4 percentage points. Given the relatively low income population of Springfield, the percentage of students qualifying for free or reduced price lunch has historically been higher than that of the state. Over the past 12 years the percentage Springfield's students qualifying for free or reduced price lunch has often been nearly triple the state rate.

# A Demographic and Economic Analysis of the City of Springfield

**Figure 17**

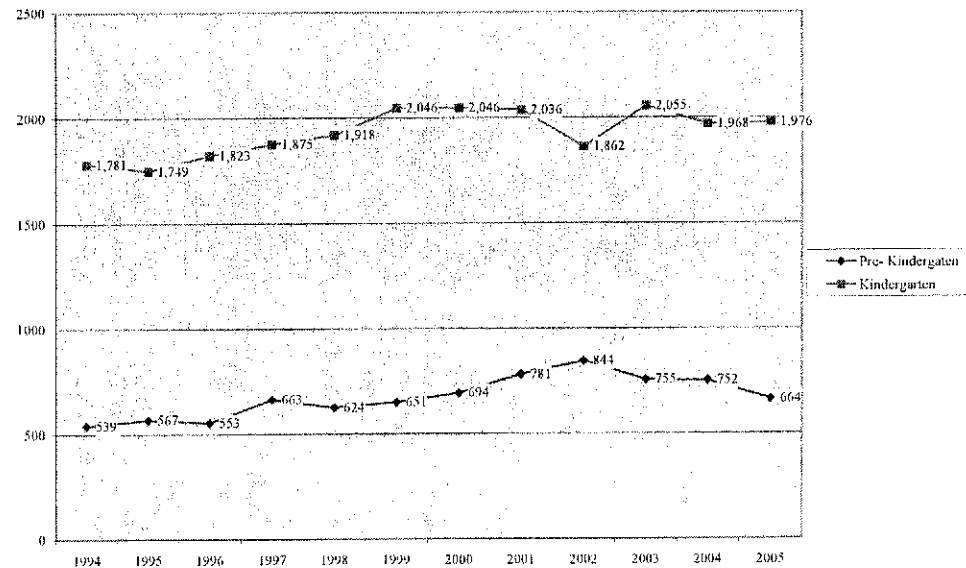
Springfield Public School Enrollment 2001-2006



Source: MA Department of Education.

**Figure 18**

Pre-Kindergarten and Kindergarten Enrollment 1994-2006



Source: MA Department of Education

## A Demographic and Economic Analysis of the City of Springfield

Figure 19

Percent of Students who are White

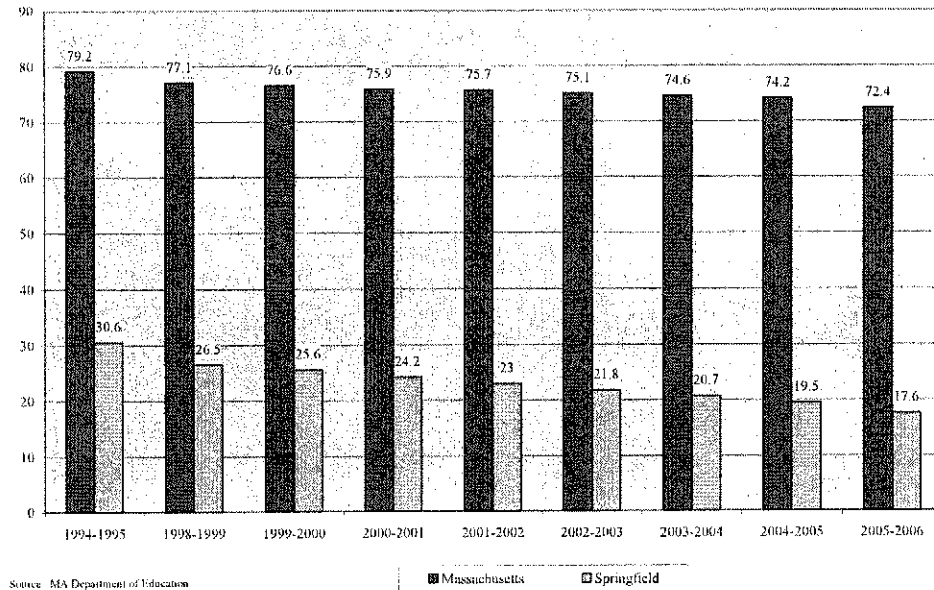
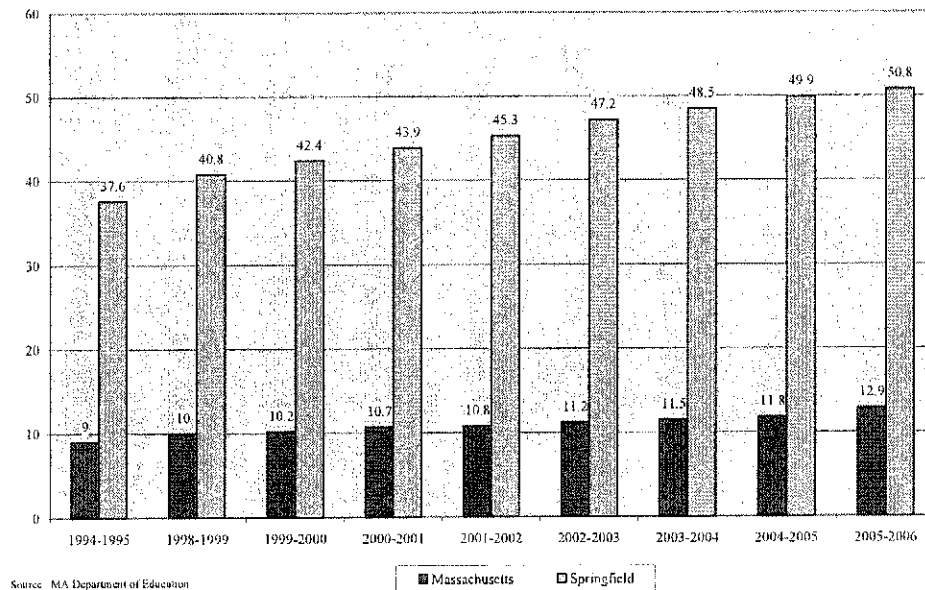


Figure 20

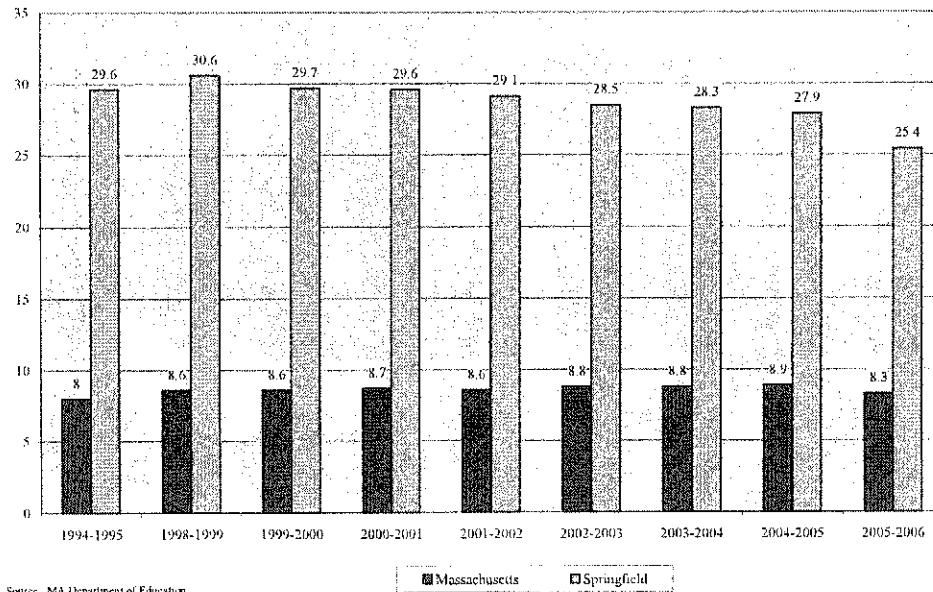
Percent of Students who are Hispanic



# A Demographic and Economic Analysis of the City of Springfield

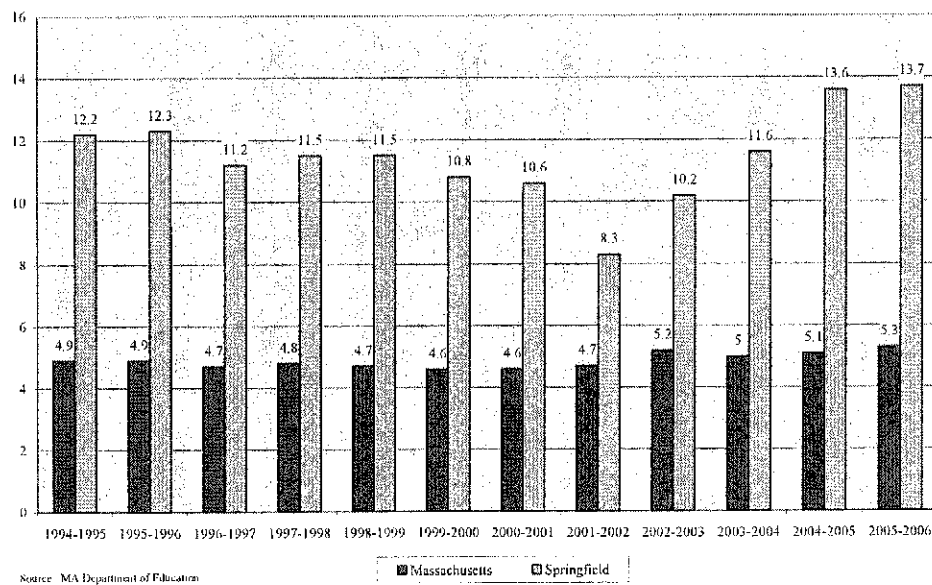
**Figure 21**

Percent of Students who are African American



**Figure 22**

Percent of Students with Limited English Proficiency





## A Demographic and Economic Analysis of the City of Springfield

Figure 23

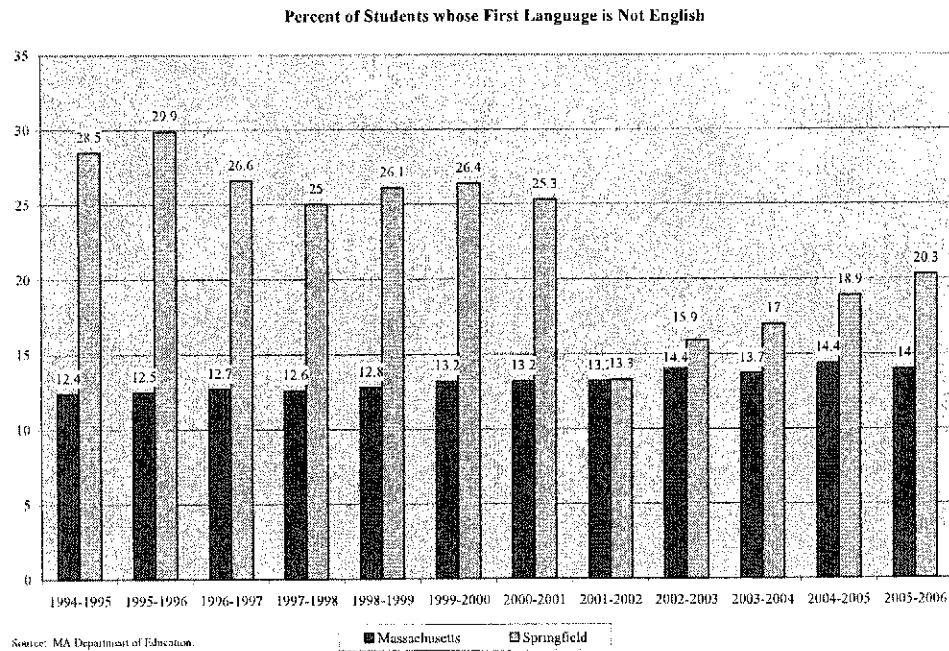
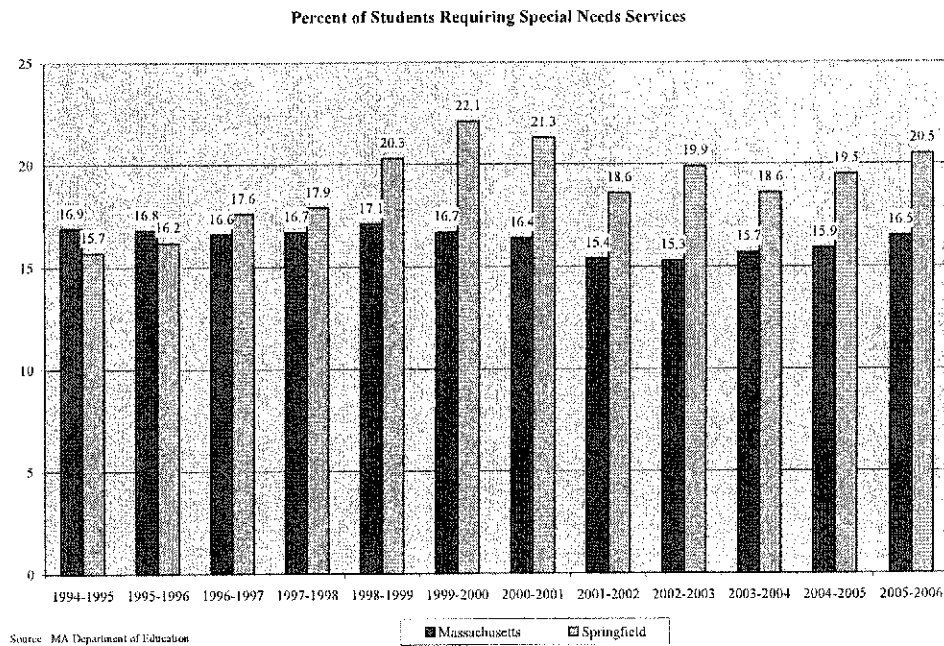


Figure 24



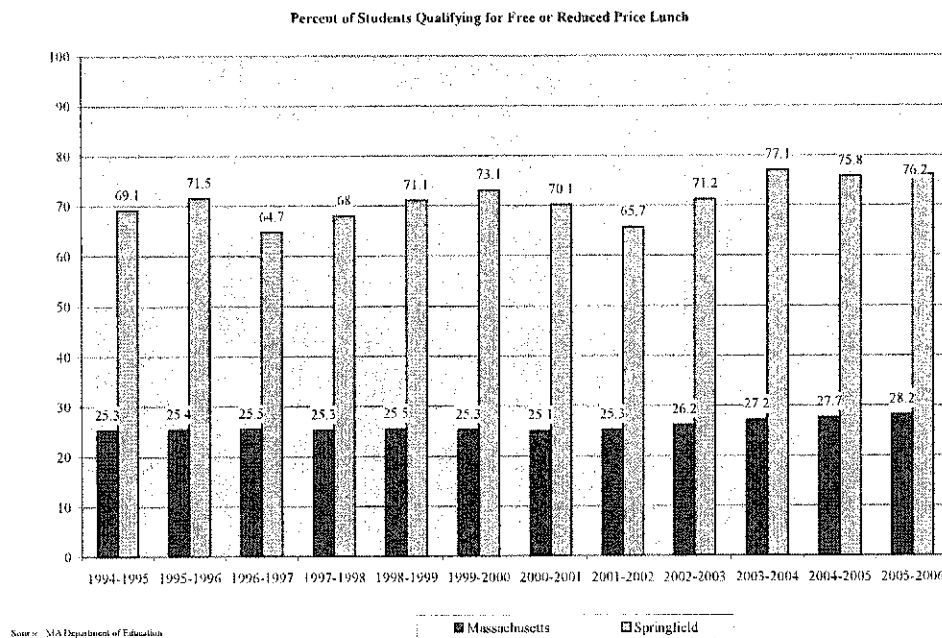


# EXHIBIT B

## (Part 2)

## A Demographic and Economic Analysis of the City of Springfield

**Figure 25**



### *Magnet schools and vocational training*

A number of Springfield Public Schools are magnet schools, designed to attract students and families with specific interests, such as mathematics or the arts. Magnet programs specialize in a particular area of study or educational approach and integrate the magnet theme into the school's overall curriculum to foster an engaging academic environment. Twelve schools in Springfield had magnet programs from 2001-2004. Elementary school thematic programs included programs in developmental literacy and global studies, micro-society, dramatic and performing arts, medical science and community service, city of the future, environmental studies, and inquiry science. In addition, one elementary school utilizes the Montessori kindergarten through middle years concept, while another is centered around an approach inspired by Reggio Emilia, and another has developed its curriculum around the International Baccalaureate primary program. Middle school programs include one based on the International Baccalaureate middle years program and another centered around a visual and performing arts theme. High school magnet programs, all at the High School of Commerce, include the International Baccalaureate diploma program, and programs in medical science, law and government, and business and finance.

In 2004 Springfield received an additional \$8.3 million grant to help implement the magnet concept at five additional schools. The grant is being used to implement the magnet concept at three elementary schools, a middle school, and a school offering both elementary and middle school grades. New magnet programs for elementary schools will include an expeditionary learning and project-based science theme, a visual and performing arts theme, and a mathematical discovery and communication theme. A museum school-theme with aviation, aerospace, and robotics will be implemented at Elias Brooking School, which offers kindergarten through middle school. At the middle school levels, a magnet program will be developed that

### **A Demographic and Economic Analysis of the City of Springfield**

focuses on expeditionary learning with “exploratory zones” in law, justice and forensics, broadcast journalism and communication arts, and design engineering and technology

The most well-known magnet program in the district is the International Baccalaureate (IB) diploma program. Since July 2000, Springfield’s High School of Commerce has been one of only 800 schools world-wide to participate in the full diploma program, which is designed to foster academic excellence and international awareness. Upon the completion of their IB course work and tests, students are eligible to receive college credit from institutions that recognize the programs rigorous academic curriculum.

To receive an IB diploma, students must complete three modules identified as the core of the program, including a “Theory of Knowledge” course, an extended essay, and 150 hours of community service, as well as complete advanced coursework in six areas of study – language arts, foreign language studies, individuals and societies, experimental sciences, mathematics and computer sciences, and the arts. Students are assessed not only by their teachers but also by external IB evaluators, who score multiple choice tests and essays administered by the program. IB courses are open to all students with the recommendation of a teacher, regardless of whether they are pursuing an IB diploma or not. Non-diploma students receive IB certificates upon completion of an individual course. During the last examination session, thirty-four student completed IB exams.

Springfield Public Schools also operates a vocational program at Putnam Vocational-Technical High School. Putnam offers programs in carpentry and cabinet-making, electrical construction, metal fabrication, sign construction, design, cosmetology, culinary arts, nursing, auto body, auto mechanics, commercial art, computer repair, and graphic arts. In addition to occupational training, students also complete academic coursework required for a Massachusetts high school diploma. Workplace-related problem-solving and skills building are also built into a number of courses, including those in mathematics and science, through the “tech prep” curriculum. These courses integrate material from vocational studies into traditional academic courses and involve hands on projects and interactive teachings approaches. These techniques serve to both motivate students’ interest in the academic matter by connecting it to their chosen program interest and to provide students with practical training.

#### *MCAS performance*

The academic performance of Springfield students is measured by the Massachusetts Comprehensive Assessment System (MCAS) examinations. Under MCAS, students begin to take statewide assessment tests in grade three, and are tested annually through eighth grade, and then again in tenth grade. The MCAS system provides an assessment of student performance, and students are classified at one of four performance levels, advanced, proficient, needs improvement, or warning/failure, based on their results (except the grade three test for which there is no “advanced” level). The third grade test is a reading skills test, an indicator of whether students have acquired the skills necessary for academic success in later grade levels. The test is “high stakes” for students at the tenth grade level, as students are required to pass the tenth grade MCAS test prior to graduation.

On the MCAS test, Springfield students typically perform below the state-wide average. Consistent with the state-wide trend, Springfield students’ performance on the test has improved over the past five years as numerous efforts have been implemented to improve student achievement and test performance. Springfield’s improvement over this period have helped to

### A Demographic and Economic Analysis of the City of Springfield

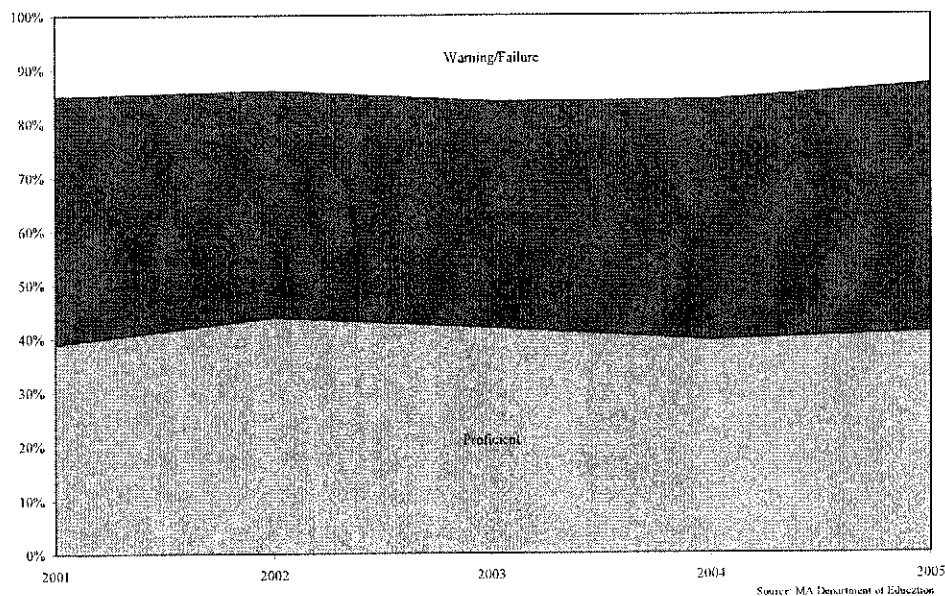
narrow the gap between the performance of students in Springfield and those elsewhere in the state. Springfield students' poor performance on the 10<sup>th</sup> grade math MCAS is particularly troubling, given that in a 2003 focus group of Springfield area manufacturers, manufacturing employers expressed that basic mathematics skills are becoming an increasingly important workforce skill in the new manufacturing environment.

However, the Springfield Public Schools face a number of unique challenges. As stated previously a much larger percentage of students in Springfield Public Schools are classified as limited English proficient, low income or special needs by the Department of Education. Research indicates that students from these groups, on average, face more barriers to academic success than students without these attributes. This suggests that as a district, the Springfield Public Schools serve a more difficult-to-educate student population than other Massachusetts cities and towns. Furthermore, if the test performance of Springfield students with special needs or low-income backgrounds is compared with that of similar students statewide, the gap between Springfield passing rates and those of the state narrows considerably.

Despite some improvement in overall passing rates, nearly three of every five third graders in Springfield are not getting a proficient score on the MCAS reading exam, suggesting they will struggle in higher grades to learn because of difficulty reading. Likewise, while overall passing rates on the MCAS 10<sup>th</sup> grade math exam have increased, only one in five Springfield 10<sup>th</sup> grader gets a proficient or advanced score on the exam. The 10<sup>th</sup> grade English exam reveals similar results, an overall increase in passing rates but a very limited number of students scoring as proficient or advanced (a needs improvement score counts as passing).

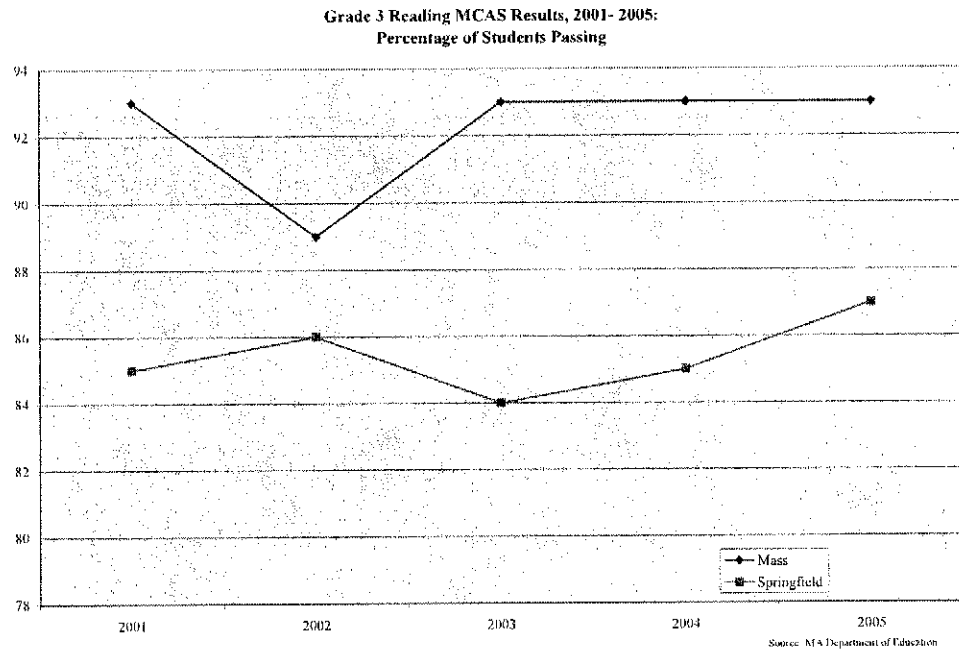
**Figure 26**

**Grade 3 MCAS Results: Percentage of Students at Each Performance Level, 2001-2005**

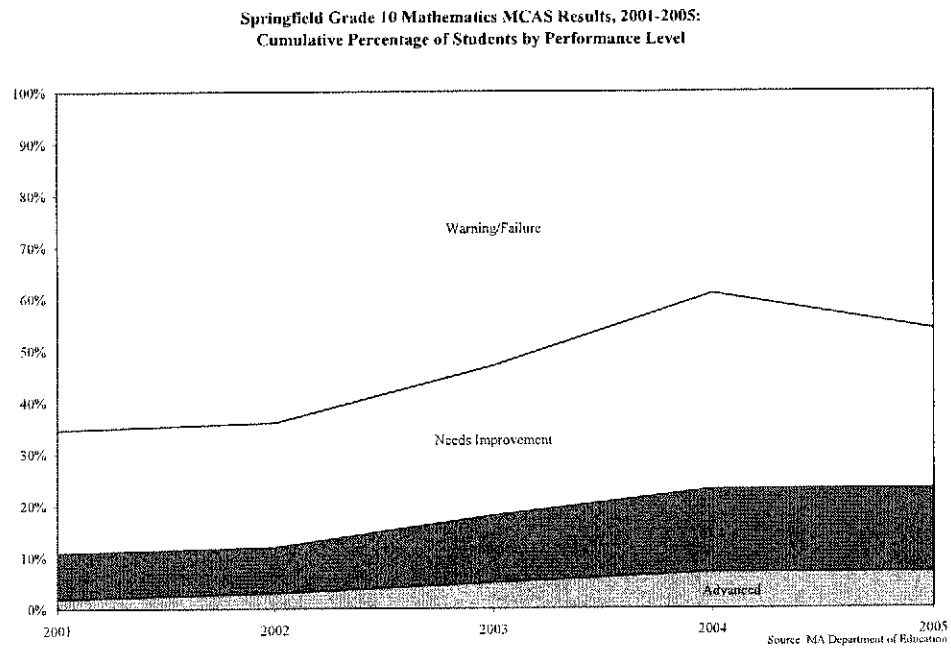


# A Demographic and Economic Analysis of the City of Springfield

**Figure 27**



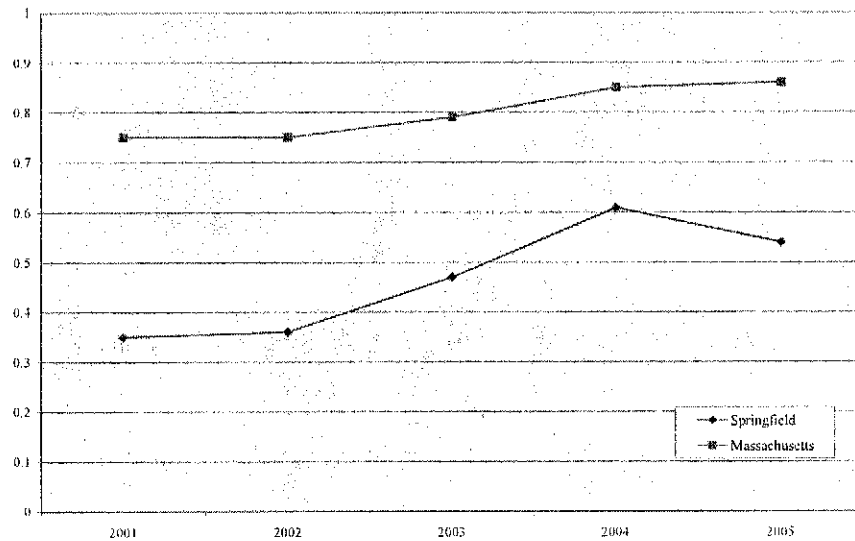
**Figure 28**



# A Demographic and Economic Analysis of the City of Springfield

**Figure 29**

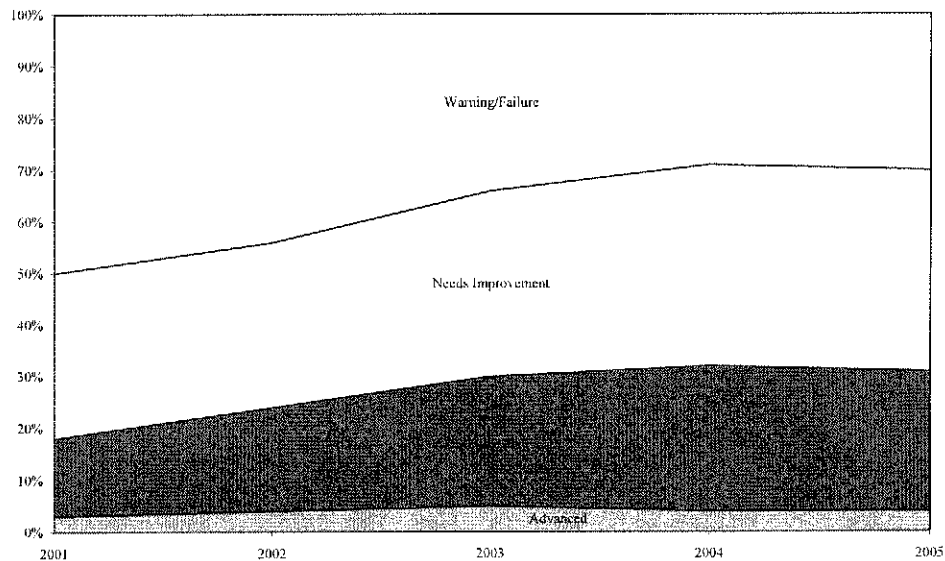
**Grade 10 Mathematics MCAS Results, 2001-2005:  
Percentage of Students Passing the MCAS Test**



Source: MA Department of Education

**Figure 30**

**Springfield Grade 10 English Language Arts MCAS Results, 2001 - 2005:  
Cumulative Percentage of Students by Performance Level**



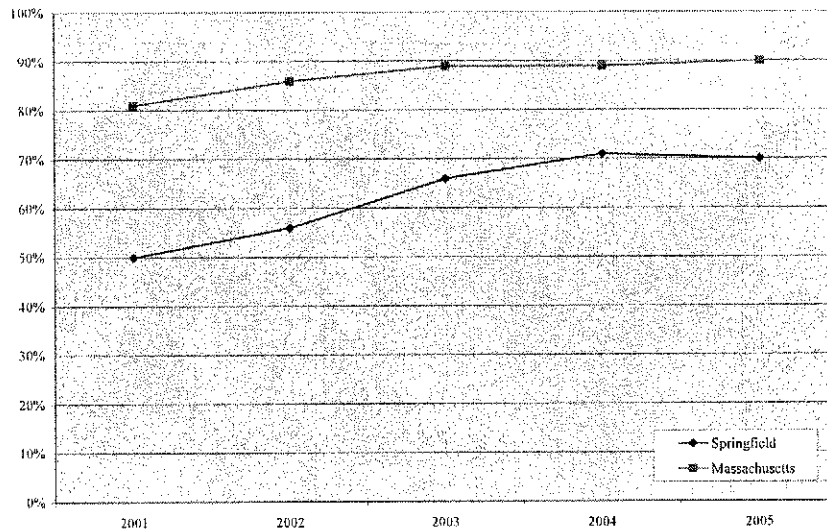
Source: MA Department of Education



## A Demographic and Economic Analysis of the City of Springfield

Figure 31

Grade 10 English Language Arts MCAS Results, 2001-2005:  
Percentage of Students Passing the MCAS Test



Source: MA Department of Education

Table 8: Grade 10 MCAS Results for Selected Student Populations, 2005

	English Language Arts							
	Advanced		Proficient		Needs Improvement		Warning/Failing	
	Spfld	Mass	Spfld	Mass	Spfld	Mass	Spfld	Mass
Limited English Proficiency	0%	1%	2%	9%	35%	34%	62%	55%
Low Income	2%	7%	22%	30%	42%	39%	34%	24%
Special Education	0%	3%	7%	24%	29%	42%	64%	31%
	Mathematics							
	Advanced		Proficient		Needs Improvement		Warning/Failing	
	Spfld	Mass	Spfld	Mass	Spfld	Mass	Spfld	Mass
Limited English Proficiency	3%	11%	4%	14%	22%	30%	71%	45%
Low Income	4%	14%	13%	21%	30%	33%	53%	31%
Special Education	1%	8%	4%	20%	13%	34%	81%	38%

Source: Massachusetts Department of Education.

### *Plans of graduates*

The future plans of Springfield's high school graduates have remained relatively stable over the past 11 years. High school graduates in Springfield generally show more interest in two-year institutions as opposed to other post-graduation options. Despite overall stability, the



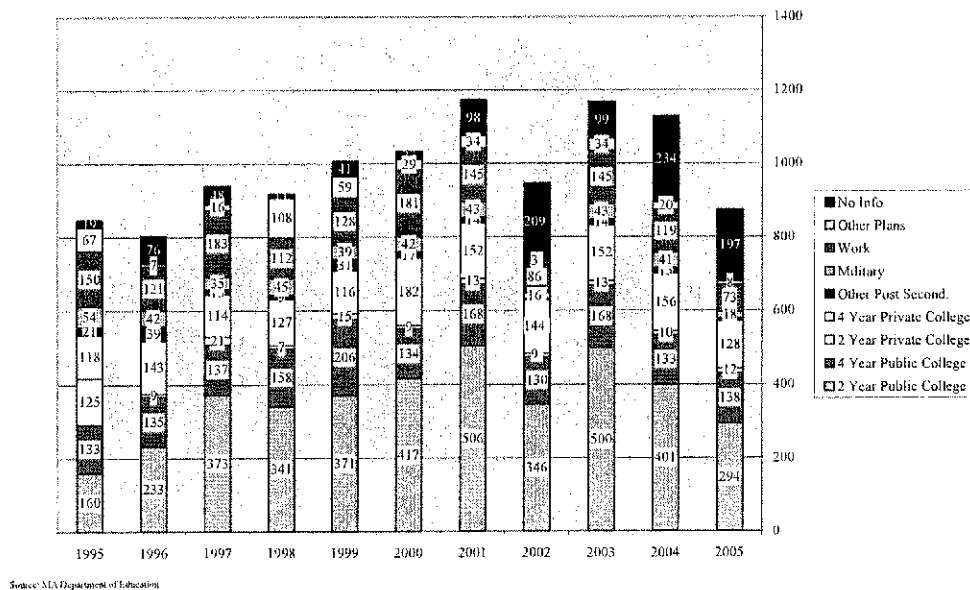
### A Demographic and Economic Analysis of the City of Springfield

number of students planning to enter the workforce immediately after graduation has fluctuated. From 1995 to 2005, the percentage of students entering the workforce straight out of high school dropped 8.7 percent. This trend is particularly noticeable when examining the graduation plans of Roger L. Putnam High School graduates. In 1995, 42.0 percent of Putnam's graduating class reported that they would enter the workforce upon graduation, while 27.4 percent reported that they would continue their education at a two-year institution. In 2005 only 7.2 percent of Putnam graduates planned to enter the workforce while 73.0 percent intended to pursue a two- or four-year degree. This information becomes especially important when analyzing Springfield's trained and qualified workforce. Springfield's graduates are becoming increasingly interested in furthering their education by attaining college degrees and advanced technical training.

Unfortunately, data on graduates' intentions does not shed light on their actual actions following graduation. Anecdotally, the low rate of college degree attainment among Springfield's population suggests that not as many Springfield graduates are able to complete the education they intend to pursue when they finish high school.

Figure 32

Plans For Springfield Public School Graduates 1995-2005



### Teachers

The Springfield school district currently employs approximately 2,300 teachers, 1,889 of which, or 82 percent, teach in core academic subject areas. This current staffing level translates to a district-wide student-teacher ratio of approximately 10.9 to one, slightly lower than the statewide average of 13.2 to one. Just below 80 percent of teachers in Springfield are licensed to teach in the field of their teaching assignment, far lower than the statewide average of 94.4 percent. Among teachers in core academic subject areas, only 78 percent Springfield teachers

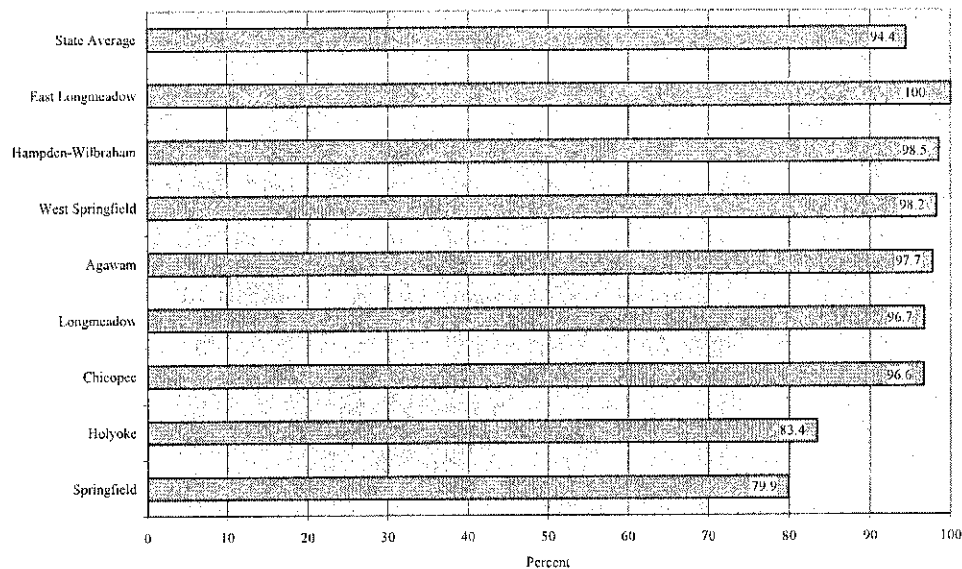
### A Demographic and Economic Analysis of the City of Springfield

are considered highly qualified under the metrics of the No Child Left Behind Act; while, statewide, 93.8 percent of teachers in core academic areas are identified as highly qualified.

Both the percentage of teachers licensed to teach in their subject and the percentage of teachers designated as highly qualified declined between the 2004-2005 and 2005-2006 academic years. Over the same period the number of teachers rose slightly, up from 2,235 in 2004-2005. This suggests that Springfield may not be retaining its highly qualified teachers and new hires are less likely to be licensed in their assignment or “highly qualified” according to Department of Education standards. Declines in the percentage of teachers licensed in their assignment may be the result of a protracted labor dispute; however, with a new five-year contract approved with the start of the 2006-2007 school year, it is likely that teacher qualification percentages will rise sharply over the next few years.

**Figure 33**

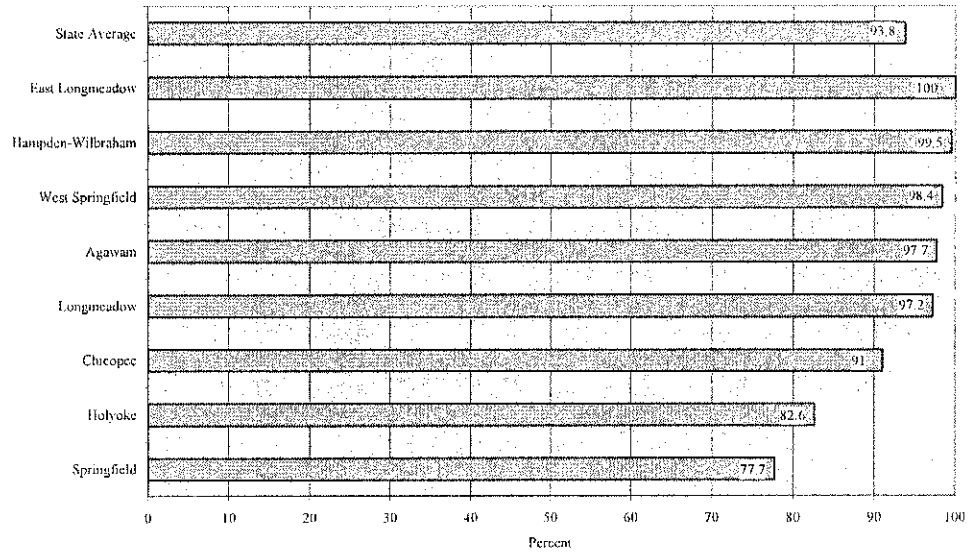
**Percent of Public School Teachers Licensed in their Teaching Assignment for Springfield and Surrounding Communities, 2005-2006**



# A Demographic and Economic Analysis of the City of Springfield

**Figure 34**

**Percent of Core Teachers Identified as Highly Qualified  
in Springfield and Surrounding Communities, 2005-2006**



## A Demographic and Economic Analysis of the City of Springfield

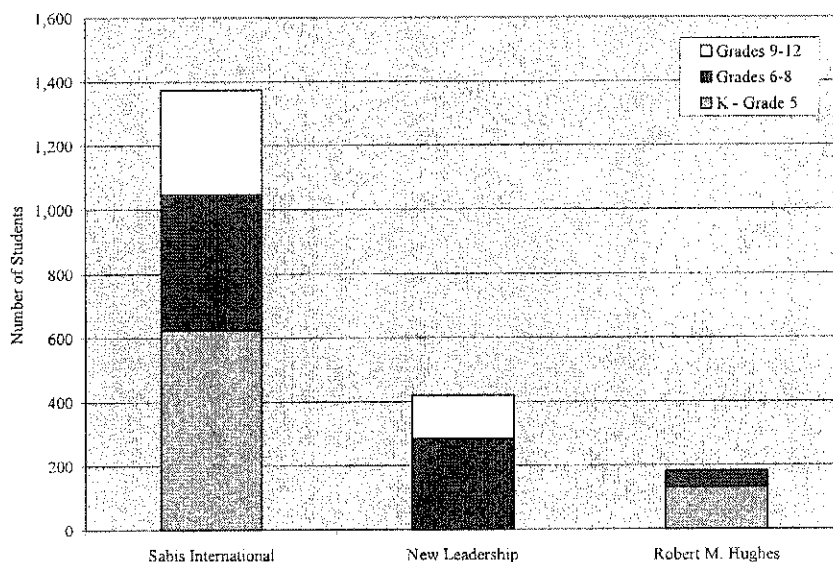
### Charter and Private Schools

During the 2004-2005 school year, it was reported that 11 percent of Springfield's school-age children attended private schools, while 6 percent attended charter schools. From 2000 to 2004 the number of school-age children attending private and charter schools increased by 12.2 percent while the number attending public schools decreased by 2.1 percent. This occurrence, however, is not taking place at a fast enough rate to suggest a declining interest in public school education throughout the city. The preponderance of the private school enrollment is at the pre-kindergarten level with private enrollment encompassing over 50 percent of total preschool enrollment. Charter school enrollment seems to be concentrated at the middle school grade levels, with 9.0 percent of total middle school enrollment. Enrollment of children with special language needs for the charter schools is generally lower than that of the Springfield Public Schools; however, charter schools tend to enroll percentages of low-income or special needs students that are similar to the public system as a whole. In 2005 the New Leadership Charter School had the highest number of low-income and special education students among the charter schools. Special populations data is not available for private schools.

MCAS scores showed no obvious trend among the charter schools. The two schools that reported scores for the 10<sup>th</sup> grade test had very different mathematics results with Sabis International Charter School having the highest passing rate among the all of Springfield's schools at 97.0 percent, while New Leadership Charter School had one of the lowest passing rates at 55.0 percent.

**Figure 35**

Enrollment in Springfield Charter Schools, 2005-2006



Source: MA Department of Education

## A Demographic and Economic Analysis of the City of Springfield

Figure 36

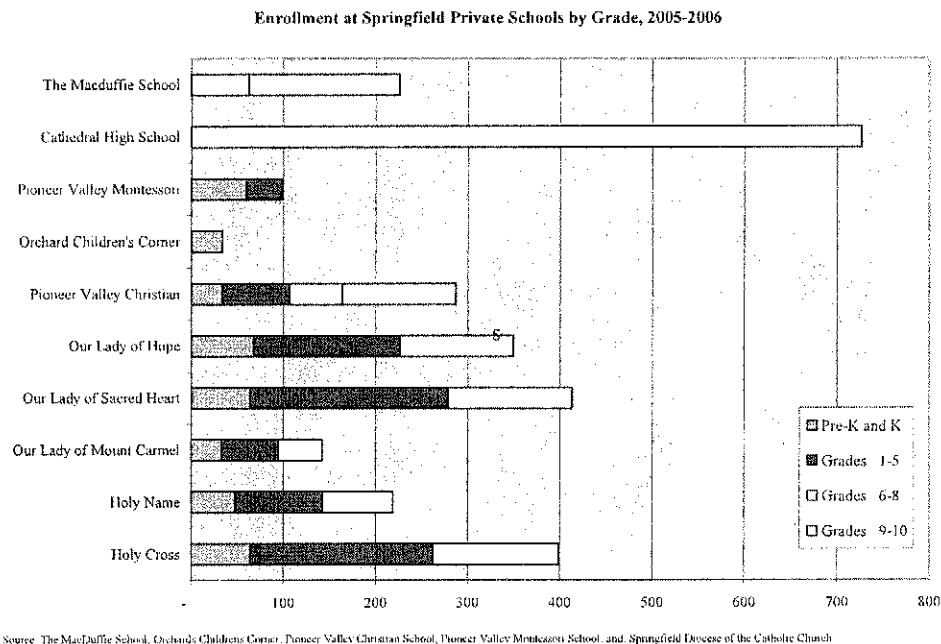
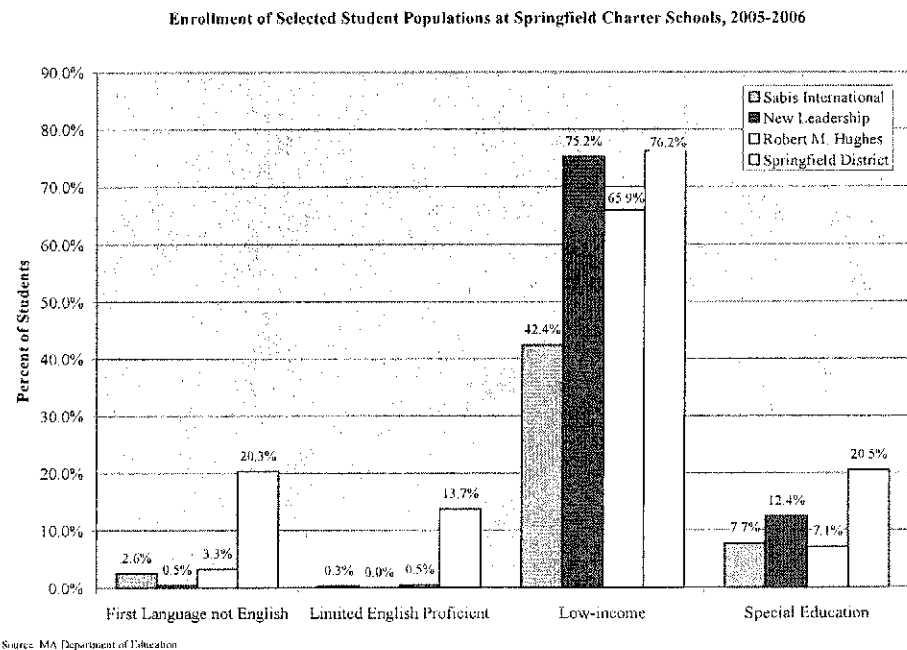


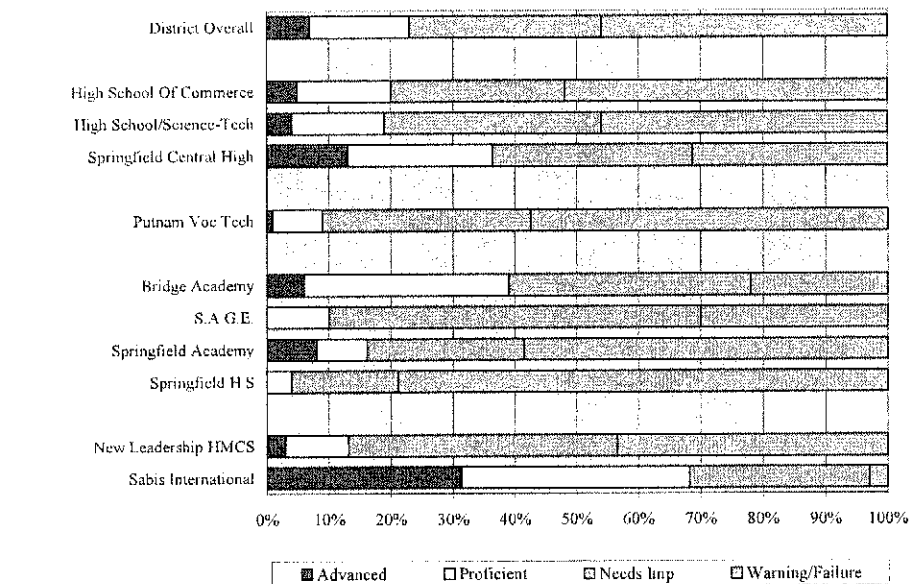
Figure 37



# A Demographic and Economic Analysis of the City of Springfield

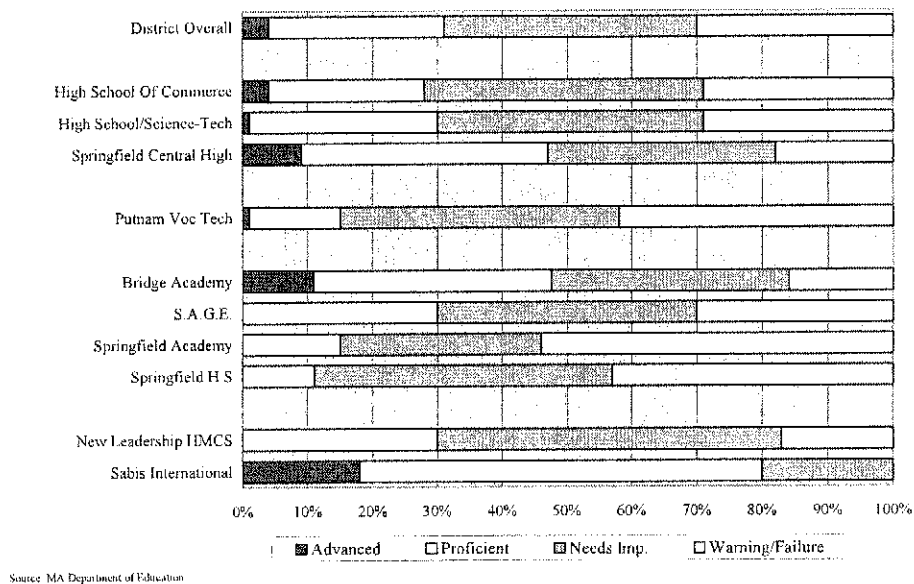
**Figure 38**

10th Grade MCAS Mathematics Performance by School, 2005



**Figure 39**

10th Grade MCAS English Language Arts Performance by School, 2005



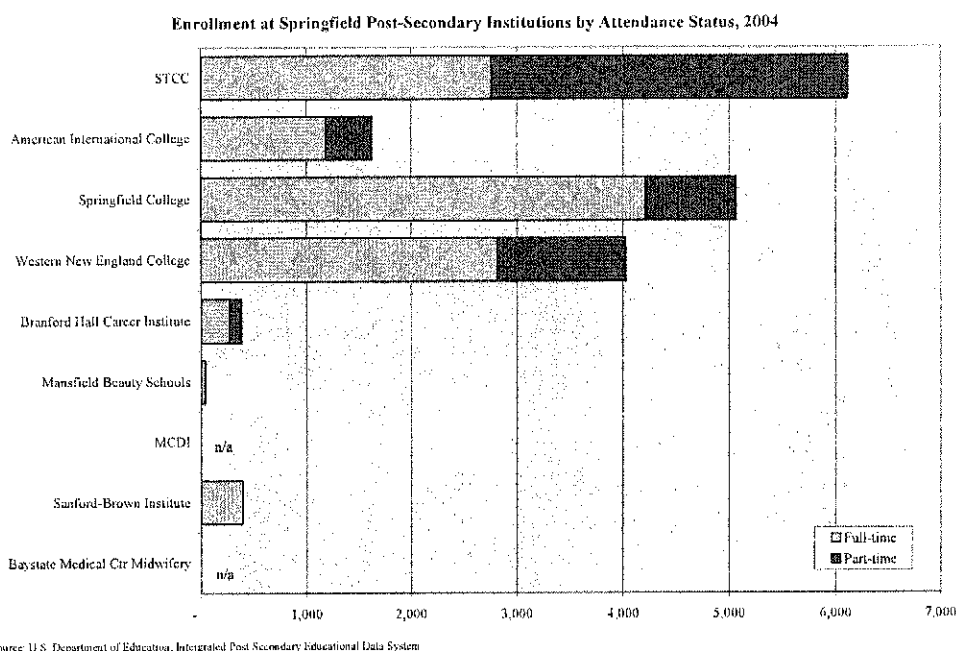


## A Demographic and Economic Analysis of the City of Springfield

### Higher Education

According to data provided by the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS), Springfield is home to nine postsecondary educational institutions, including a technical community college, three four-year colleges, four training institutes, and a midwifery certificate program. In 2004, more than 17,600 individuals were enrolled at these institutions.<sup>2</sup>

**Figure 40**



### *Two-year institutions*

The largest institution in the city is Springfield Technical Community College (STCC), a public community college that offers programs in both general liberal arts and vocational or technical training. In 2004, STCC had an enrollment of 6,114 students, 55 percent of whom attended part-time. Students under 25 years of age constitute the majority of the full-time enrollment, while students over 25 are more likely to attend part-time.

STCC offers 14 programs in health professions, 27 in engineering technologies, and 15 in business and information technologies. Upon completion of their studies, students receive either an associates degree or a certificate, depending on the program. A majority of the degrees and certificates that STCC confers are in vocational or professional preparation programs. In 2003-2004, STCC conferred more than 700 associates degrees, fewer than one in five of which were in

<sup>2</sup> It should be noted that Springfield College's IPEDS enrollment figures also include students enrolled at its nine satellite campuses located in Boston, Massachusetts; Charleston, South Carolina; Los Angeles, California; San Diego, California; Manchester, New Hampshire; Milwaukee, Wisconsin; St. Johnsbury, VT; Tampa, Florida; and Wilmington, Delaware.



### A Demographic and Economic Analysis of the City of Springfield

general or liberal arts programs. During this same period, STCC awarded 155 certificates below the baccalaureate level. Specializations in the health field account for the largest percentage of degrees and certificates granted at STCC. Approximately 21 percent of all associates degrees awarded at STCC in 2003-2004 were in subjects related to the health profession; 30 percent of all certificates granted during the same period were in the health field.

**Table 9: Associates Degrees Awarded by STCC by Primary Major, 2003-2004**

<b>Agriculture, agriculture operations, and related sciences</b>	<b>7</b>
Landscaping and Grounds keeping	7
<b>Biological and biomedical sciences</b>	<b>4</b>
Biology/Biological Sciences, General	2
Biotechnology	2
<b>Business fields</b>	<b>122</b>
Accounting	14
Business Administration, Management and Operations	22
Business Administration and Management, General	20
Logistics and Materials Management	2
Business/Commerce, General	64
Executive Assistant/Executive Secretary	8
Finance and Financial Management Services	5
Marketing	4
Small Business Administration/Management	5
<b>Communications technologies/technicians and support services</b>	<b>19</b>
Radio and Television Broadcasting Technology/Technician	11
Graphic Communications	8
<b>Computer and information sciences and support services</b>	<b>64</b>
Computer Programming	21
Computer Science	8
Web Page, Digital/Multimedia and Information Resources Design	9
Computer/Information Technology Administration and Management	26
<b>Education</b>	<b>32</b>
Early Childhood Education and Teaching	14
Elementary Education and Teaching	18
<b>Engineering</b>	<b>20</b>
Engineering, General	20
<b>Engineering technologies/technicians</b>	<b>103</b>

**A Demographic and Economic Analysis of the City of Springfield**

Civil Engineering Technology/Technician	10
Computer Engineering Technology/Technician	14
Electrical Engineering Technologies/Technicians	35
Electrical/Electronic/Communications Engr Technology/Technician	4
Laser and Optical Technology/Technician	12
Telecommunications Technology/Technician	19
Electromechanical Technology/Electromechanical Engineering Tech	10
Environmental Control Technologies/Technicians	15
Heating/AC/Refrigeration Technology/Technician	11
Mechanical Engineering Related Technologies/Technicians	17
Automotive Engineering Technology/Technician	4
Mechanical Engineering/Mechanical Technology/Technician	13
Quality Control Technology/Technician	2
Water Quality & Wastewater Treatment Mgmt & Recycling Tech	4
<b>Health professions and related clinical sciences</b>	<b>145</b>
Allied Health and Medical Assisting Services	19
Medical/Clinical Assistant	9
Occupational Therapist Assistant	4
Physical Therapist Assistant	6
Allied Health Diagnostic, Intervention, and Treatment Professions	35
Nuclear Medical Technology/Technologist	7
Respiratory Care Therapy/Therapist	4
Surgical Technology/Technologist	8
Diagnostic Medical Sonography/Sonographer & Ultrasound Technician	5
Radiologic Technology/Science - Radiographer	11
Dental Hygiene/Hygienist	16
Health and Medical Administrative Services	3
Massage Therapy/Therapeutic Massage	10
Nursing/Registered Nurse (RN, ASN, BSN, MSN)	61
Pre-Medicine/Pre-Medical Studies	1
<b>Liberal arts and sciences, general studies and humanities</b>	<b>130</b>
General Studies	93
Liberal Arts and Sciences/Liberal Studies	37
<b>Mathematics and statistics</b>	<b>1</b>
Mathematics	1
<b>Physical sciences</b>	<b>1</b>
Chemistry, General	1
<b>Security and protective services</b>	<b>51</b>

### A Demographic and Economic Analysis of the City of Springfield

Criminal Justice and Corrections	39
Fire Protection and Safety Technology	12
<b>Visual and performing arts</b>	<b>13</b>
Commercial and Advertising Art	11
Fine and Studio Art	2
<b>TOTAL</b>	<b>712</b>

Source: U.S. Department of Education, IPEDS.

#### *Four-year institutions*

The city's four-year institutions, American International College, Springfield College, and Western New England College are all private liberal arts colleges.

- *American International College* is home to academic programs in arts and sciences, business, health sciences, psychology, and education, and awards bachelor's, master's, and doctoral degrees, as well as certificates of advanced graduate study.
- *Springfield College*, the largest private institution in the city, specializes in allied health sciences, human and social services, sports and movement activities and education. It grants bachelor's, master's, and doctoral degrees at its Springfield campus. Its School of Human Services has nine satellite campuses across the country.
- *Western New England College* is home to undergraduate and master's programs in arts and sciences, business, and engineering. In addition, Western New England College is home to the only accredited law school in Western Massachusetts. During the 2003-2004 academic year, its law school granted 128 law degrees.

According to IPEDS data, colleges in Springfield awarded 1,977 bachelor's degrees during the 2003-2004 academic cycle.<sup>3</sup> The distribution of bachelor's degrees across subject areas differs dramatically from the distribution of associates degrees. According to IPEDS, public administration degrees are the most frequently awarded bachelor's degrees, although many of these degrees may be awarded at the satellite campuses of Springfield College, as opposed to the Springfield campus itself. Security and protective services and business management were also popular undergraduate majors for students. In addition, the three colleges awarded 1,382 master's degrees in the 2003-2004 academic cycle. As with bachelor's degrees, public administration, security and protective services, and business were popular majors for master's degrees.

<sup>3</sup> Again, IPEDS data for Springfield College includes students enrolled at nine satellite campuses.

## A Demographic and Economic Analysis of the City of Springfield

Table 10: Number of Bachelors Degrees Awarded at Springfield's Four-Year Colleges by Institution and Major, 2003-2004

	Western New England College	American International College	Springfield College	Total
<b>Area, ethnic, cultural, and gender studies</b>	<b>4</b>		<b>5</b>	<b>9</b>
Area Studies, Other	4	-	-	4
American/United States Studies/Civilization	0	-	5	5
<b>Biological and biomedical sciences</b>	<b>9</b>	<b>12</b>	<b>16</b>	<b>37</b>
Biology/Biological Sciences, General	9	8	4	21
Biochemistry	-	4	-	4
Biological and Biomedical Sciences, Other	-	-	12	12
<b>Business, management, marketing, and related support services</b>	<b>198</b>	<b>69</b>	<b>42</b>	<b>309</b>
Accounting	28	6	-	34
Business Administration and Management, General	60		42	102
Business Administration, Management and Operations	2	23	-	25
Business/Commerce, General	33	-	-	33
International Business	3	6	-	9
Management Information Systems and Services	27	4	-	31
Management Sciences and Quantitative Methods	-	13	-	13
Marketing	30	11	-	41
<b>Communication, journalism, and related programs</b>	<b>16</b>	<b>15</b>	<b>19</b>	<b>50</b>
<b>Computer and information sciences and support services</b>	<b>14</b>		<b>3</b>	<b>17</b>
<b>Education</b>		<b>8</b>	<b>82</b>	<b>90</b>
Elementary Education and Teaching	-	7	8	15
Kindergarten/Preschool Education and Teaching	-	-	3	3
Teacher Education/Profess Development, Levels & Methods, Other	-	-	1	1
Special Education and Teaching	-	1	-	1
Art Teacher Education	-	-	2	2
Physical Education Teaching and Coaching	-	-	58	58
Mathematics Teacher Education	-	-	0	0
History Teacher Education	-	-	1	1
Health Teacher Education	-	-	5	5

## A Demographic and Economic Analysis of the City of Springfield

	Western New England College	American International College	Springfield College	Total
English/Language Arts Teacher Education	-	-	3	3
Biology Teacher Education	-	-	1	1
<b>Engineering</b>	<b>54</b>			<b>54</b>
Mechanical Engineering	21	-	-	21
Industrial Engineering	9	-	-	9
Electrical, Electronics and Communications Engineering	20	-	-	20
Biomedical/Medical Engineering	4	-	-	4
<b>English language and literature/letters</b>	<b>10</b>	<b>4</b>	<b>1</b>	<b>15</b>
<b>Health professions and related clinical sciences</b>	<b>5</b>	<b>31</b>	<b>108</b>	<b>144</b>
Allied and General Health Services	-	9	-	9
Health and Medical Administrative Services	-	-	2	2
Allied Health Diagnostic, Intervention, and Treatment Professions	5	-	50	55
Physician Assistant	5	-	14	19
Athletic Training/Trainer	-	-	24	24
Emergency Medical Technology/Technician (EMT Paramedic)	-	-	12	12
Nursing		22	-	22
Rehabilitation and Therapeutic Professions	-	-	56	56
Art Therapy/Therapist	-		7	7
Physical Therapy/Therapist	-	-	20	20
Therapeutic Recreation/Recreational Therapy	-	-	5	5
Rehabilitation and Therapeutic Professions, Other	-	-	24	24
<b>History</b>	<b>19</b>	<b>2</b>	<b>3</b>	<b>24</b>
<b>Liberal arts and sciences, general studies and humanities</b>	<b>13</b>	<b>6</b>	<b>17</b>	<b>36</b>
Liberal Arts and Sciences/Liberal Studies	13	6		19
General Studies	-	-	17	17
<b>Mathematics and statistics</b>	<b>13</b>	<b>2</b>	<b>0</b>	<b>15</b>
<b>Multi/interdisciplinary studies</b>		<b>25</b>	<b>1</b>	<b>26</b>
Natural Sciences	-	25		25
Gerontology	-	-	1	1
<b>Natural resources and conservation</b>	<b>2</b>		<b>1</b>	<b>3</b>
Environmental Science	2	-	1	3

## A Demographic and Economic Analysis of the City of Springfield

	Western New England College	American International College	Springfield College	Total
<b>Parks, recreation, leisure, and fitness studies</b>			<b>86</b>	<b>86</b>
Parks, Recreation and Leisure Studies	-	-	10	10
Parks, Recreation, Leisure and Fitness Studies, Other	-	-	4	4
Health and Physical Education/Fitness	-	-	72	72
Sport and Fitness	-	-	30	30
Administration/Management	-	-	42	42
Kinesiology and Exercise Science	-	-	42	42
<b>Physical sciences</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>6</b>
Chemistry	5	-	1	6
<b>Psychology</b>	<b>43</b>	<b>16</b>	<b>38</b>	<b>97</b>
<b>Public administration and social service professions</b>	<b>11</b>	<b>1</b>	<b>545</b>	<b>557</b>
Social Work	11	-	-	11
Community Organization and Advocacy	-	-	545	545
Human Services, General	-	1	-	1
<b>Security and protective services</b>	<b>315</b>	<b>23</b>	<b>2</b>	<b>340</b>
Criminal Justice/Police Science	266	-	-	266
Criminal Justice/Safety Studies	49	23	2	74
<b>Social sciences</b>	<b>19</b>	<b>16</b>	<b>7</b>	<b>42</b>
Economics	1	1	-	2
Political Science and Government	13	4	1	18
Social Sciences, General	-	4	-	4
	5	7	6	18
<b>Visual and performing arts</b>			<b>20</b>	<b>20</b>
Fine and Studio Art	-	-	1	1
Commercial and Advertising Art	-	-	18	18
<b>TOTAL BACHELOR'S DEGREES</b>	<b>750</b>	<b>230</b>	<b>997</b>	<b>1977</b>

Source: U.S. Department of Education, IPEDS.

*Training institutes*

Springfield is also home to four training institutes. Three of the training institutes, Branford Hall Career Institute, Sanford-Brown Institute and Mansfield Beauty Schools, are campuses within larger for-profit educational systems. The Massachusetts Career Development Institute (MCDI) is a non-profit operated with city funds.

Branford Hall Career Institute in Springfield is one of six Branford Hall campuses in the northeast. The schools are owned by Premier Education Group, headquartered in East Haven, Connecticut, which also has a regional office in the city. The Springfield campus offers programs in culinary arts, heating, ventilation and air conditioning, massage therapy, medical

### A Demographic and Economic Analysis of the City of Springfield

assisting, and health claims. The campus expanded in 2005, adding a second location in the city to house its culinary arts and heating, ventilation and air conditioning programs. In 2004, 381 students were enrolled at Branford Hall Career Institute's Springfield campus.

Sanford-Brown Institute's Springfield campus is a subsidiary of the Illinois-based Career Education Corporation and is one of 15 Sanford-Brown Institutes operated nationally. Sanford-Brown Institute offers programs in medical billing and coding, medical assisting, criminal justice, and massage therapy in Springfield. According to IPEDS data, 391 students were enrolled in Sanford-Brown programs in 2004.

Mansfield Beauty School in Springfield is one of two Mansfield schools based in Quincy, Massachusetts. Mansfield Beauty School offers cosmetology and manicure programs. Mansfield Beauty School is the smallest of the training institutes, with enrollment in 2004 of 39 students.

The Massachusetts Career Development Institute (MCDI) offers educational and vocational skills training to at-risk populations in the city, including the unemployed, underemployed, and homeless. Educational programs include basic adult education, literacy, English language proficiency, and graduate equivalency degree training. Vocational programs include office skills, medical secretary, certified nurse aid, environmental technology, culinary arts, electronic technology, metal fabrication, and building maintenance. According to MCDI's 2006 budget proposal, 576 individuals were enrolled in vocational programs in fiscal year 2004, which ran from July 2003 to June 2004; 228 individuals were enrolled in education training programs during that same period.

IPEDS data for degree completions indicate that the three for-profit training institutes in Springfield awarded 452 certificates during the 2003-2004 academic cycle. A majority of these certificates were in fields related to the health professions. While IPEDS data for program completions at MCDI were not available, City of Springfield budget documents indicate that during the 2004 fiscal year, 295 individuals completed vocational programs at MCDI.

**Table 11: Number of Certificates Awarded at Training Institutes by Institute and Subject, 2003-2004**

	<b>Branford Hall Career Institute</b>	<b>Sanford- Brown Institute</b>	<b>Mansfield Beauty Schools</b>	<b>Total</b>
<b>Computer and information sciences and support services</b>	<b>23</b>	<b>-</b>	<b>-</b>	<b>23</b>
<b>Cosmetology and Related Personal Grooming Services</b>	<b>-</b>	<b>-</b>	<b>21</b>	<b>21</b>
Cosmetology			16	
Other Related Personal Grooming Arts			5	
<b>Health professions and related clinical sciences</b>	<b>224</b>	<b>184</b>	<b>-</b>	<b>408</b>
Medical Records Technology	67	47		114
Medical/Clinical Assistant	157	137		294



## A Demographic and Economic Analysis of the City of Springfield

	Branford Hall Career Institute	Sanford- Brown Institute	Mansfield Beauty Schools	Total
<b>TOTAL CERTIFICATES FROM TRAINING INSTITUTES</b>	<b>471</b>	<b>368</b>	<b>42</b>	<b>860</b>

Source: U.S. Department of Education, IPEDS.

*Other post-secondary options*

The city is also home to a post baccalaureate certificate program at Baystate Medical Center. The Baystate Medical Center Midwifery Education Program offers its certificate in midwifery for individuals with nursing degrees, and according to IPEDS data, three such certificates were awarded from 2003-2004.

In addition to the various educational options available to the city's residents, Springfield is also home to one of the Hampden County Regional Employment Board's career centers. Futureworks Career Center serves the community by aiding in the search for employment and providing career training information, and support services. Most of the services offered are provided free of charge, however computer workshops and job training seminars usually require a small fee. In addition to servicing the adults in the community, Futureworks works in conjunction with the Hampden County Regional Employment Board and the Holyoke based Career Center, Careerpoint, to help qualified youth ages 14-21 find employment in private area businesses.

## A Demographic and Economic Analysis of the City of Springfield

### Businesses in Springfield

#### Business in Springfield

##### *Establishments*

Springfield's business community has a long history in manufacturing with a particular specialty in fabricated metal products manufacturing, emanating from the long history of the Springfield Armory. While manufacturing remains a strong presence in the Springfield business community, other prominent sectors have emerged as well. In particular, health and educational services industries have become major employers in Springfield.

As of 2004, there were slightly more than 5,500 private employers located in Springfield. The largest share of these employers were the 486 employers in the retail trade sector. That retail trade represents the largest number of employers is unsurprising since most retail establishments are small (the average retail establishment has 14.1 employees). Health care and professional services represented the next two largest sectors with respect to number of establishments with 417 and 379 employers respectively.

Despite the much discussed decline of manufacturing in the Northeast, Springfield has 144 manufacturing employers with an average employment of 36 per establishment. In some respects the decline in manufacturing is actually a shift in the nature of manufacturing. The number of large manufacturing employers in Springfield has and continues to decline; however, the manufacturing sector remains vibrant in the form of a larger number of small manufacturing operations that are producing high value added products on a contract-basis.

Along with the sectors already discussed, construction, wholesale trade, finance and insurance, real estate, administration, and accommodation and food services industries each have more than 100 employers in Springfield. While Springfield has never been a major location for corporate headquarters', the presence of the home offices for the city's home grown companies such as Smith and Wesson or Big Y Supermarkets translates into 22 employers in the management of companies and enterprises sector with an average of 63 employees for each of these 22 establishments.

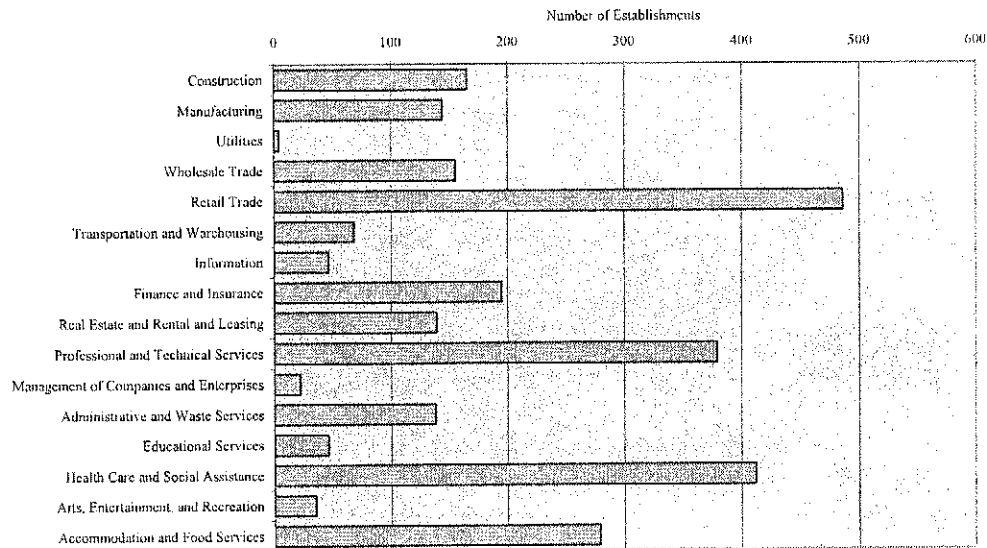
Because of changes in how industry-level data is collected and reported between 2000 and 2001, it is difficult to compare current establishment and employment data by industry to data from before 2001. However, there are already substantial changes that have taken place in numbers of employers since 2001. Unfortunately, between 2001 and 2004, the number of manufacturing employers declined by more than 10 percent. This decline was exceeded by three other sectors that also had drops in number of employers larger than 10 percent: management of companies, administrative services, and arts, entertainment, and recreation.

The construction, real estate, and educational services sectors experienced the opposite trend with greater than 10 percent increases in number of employers over the four-year period. In particular, educational services saw an increase in number of businesses that neared 30 percent. While declines in the number of manufacturing businesses in the city are worrisome, the growth of the region's emerging education, health care, and transportation sectors is good news.

## A Demographic and Economic Analysis of the City of Springfield

**Figure 41**

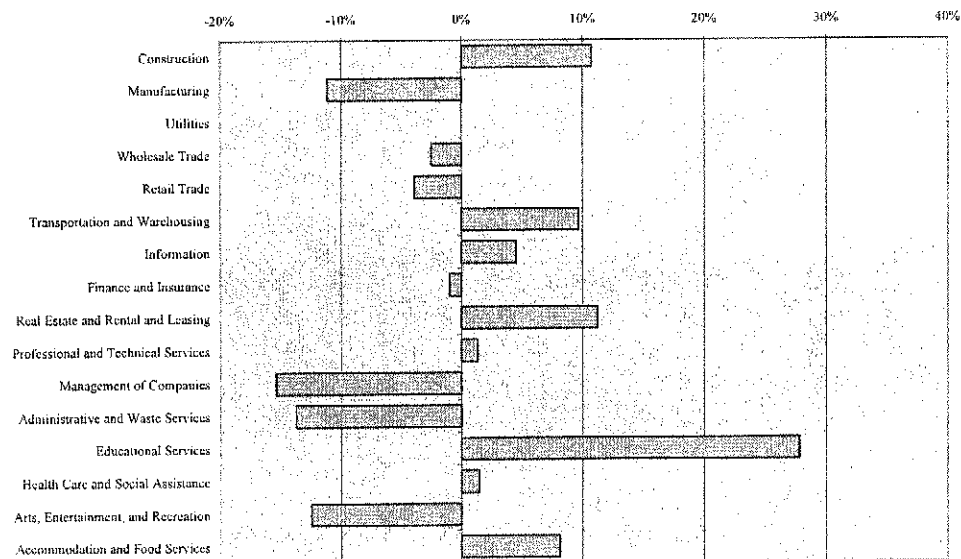
**Number of Business Establishments by Industry in Springfield, 2004**



Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages

**Figure 42**

**Percent Change in the Number of Establishments by Industry, 2001-2004**



Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages

## A Demographic and Economic Analysis of the City of Springfield

### *Employment*

Examining private sector employment in Springfield, the vital importance of the health care sector to the city becomes even more obvious. Nearly 18,000 people work in Springfield in the health care and social assistance sector (about 24 percent of the city's working population of more than 77,000). This includes employees at the city's two major hospitals, affiliated medical practices and labs, and the numerous employees of the city's many social and community service organizations. A number of these organizations serve a wider area than just Springfield but their primary offices are located in Springfield because it is the region's principal city.

The presence of MassMutual is felt in that the finance and insurance sector employs more than 6,000 people in Springfield. Retail trade is the only other sector to top 6,000 in employment in Springfield. Manufacturing though smaller than twenty years ago, still employs more than 5,000 people in Springfield. Accommodation and food services and other services are the only other two sectors employing more than 4,000 people. Because we are analyzing private sector employment, one of the city's four colleges (STCC) and the public school system are not reflected in the educational services sector employment numbers which is why the sector shows only slightly more than 2,000 employees.

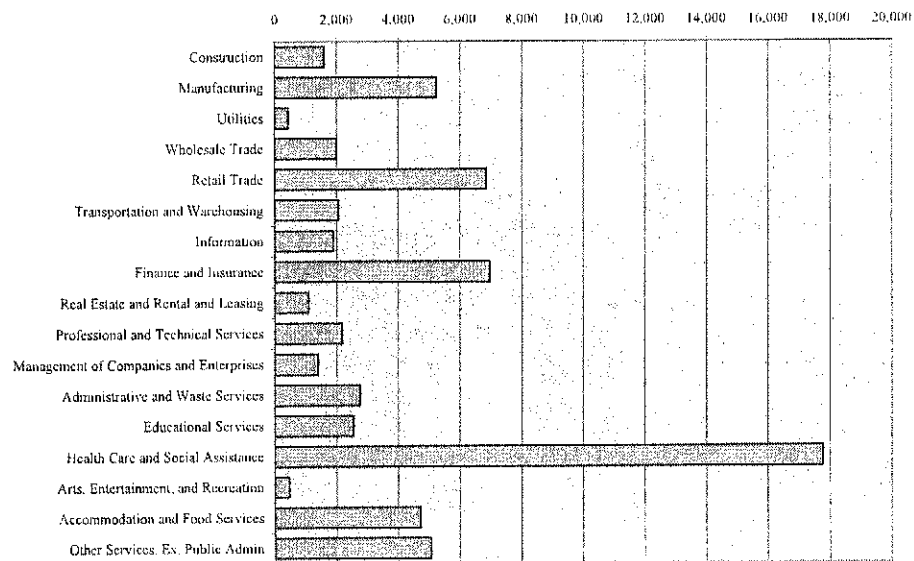
As with change in the number of employers between 2001 and 2004, the manufacturing, administrative services, and management of companies sectors experienced significant losses in employment. In particular, employment in management of companies fell by more than 30 percent between 2001 and 2004. Interestingly, construction employment dropped by nearly 20 percent between 2001 and 2004, while the number of construction employers increased by more than 10 percent. This suggests that the construction sector is shifting to smaller-sized businesses.

The industry sectors showing the largest employment gains between 2001 and 2004 were educational services (up nearly 50 percent), arts, entertainment, and recreation (up more than 25 percent), and other services (increasing by more than 25 percent). As the transportation and warehousing and real estate sectors experienced gains in the number of employers, they also saw slight increases in total employment. That a number of sectors had increases in employment that were much smaller, on a percentage basis, than their increases in number of employers provides evidence that the city's business community is becoming increasingly oriented around small employers.

## A Demographic and Economic Analysis of the City of Springfield

**Figure 43**

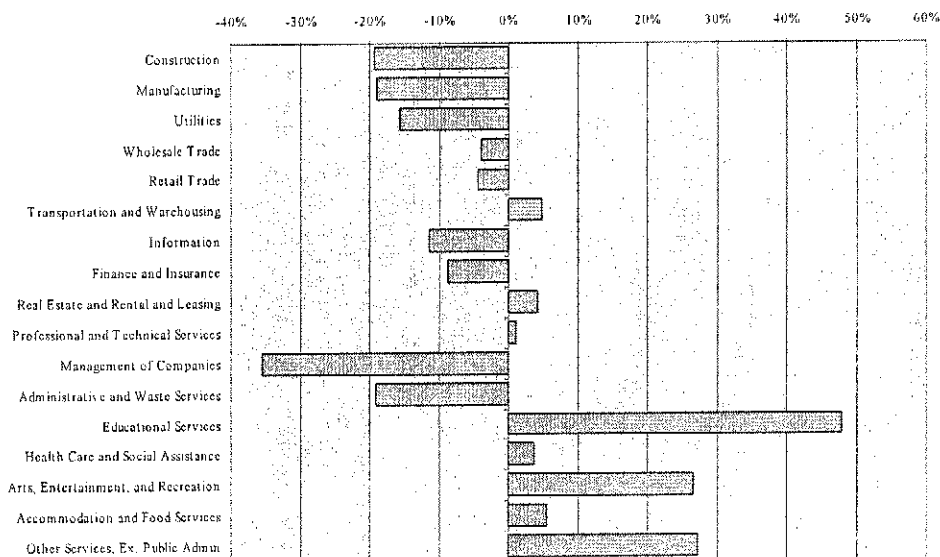
**Average Monthly Employment by Industry in Springfield, 2004**



Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages.

**Figure 44**

**Percent Change in Average Monthly Employment by Industry from 2001 to 2004**



Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages.

## A Demographic and Economic Analysis of the City of Springfield

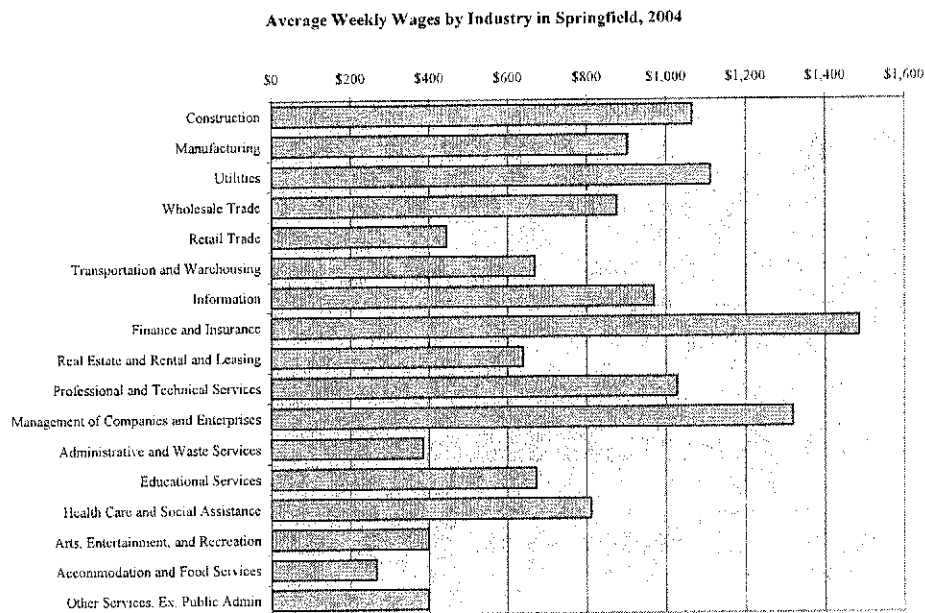
### *Average wages*

Examining the average wages paid to workers in Springfield, we find that the finance and insurance sector has the highest wages, above \$1,400 per week on average. At the other end of the spectrum, industries that rely heavily on low-wage and part-time workers have the lowest average weekly wages. For example, the accommodation and food services sector which includes hotel and restaurant workers has average weekly wages around \$260. This translates to about \$6.50 per hour if the workers were all full-time.

Educational services and health care employment pay an average weekly wage of \$671 and \$811 respectively. These translate to average annual wages of about \$35,000 and \$42,000. It is a positive pattern for Springfield that these are two of Springfield's emerging industries because they pay workers relatively high wages. The importance of manufacturing to the city's economy should be reiterated when observing that the average annual wage for a manufacturing job in Springfield is about \$47,000, better than health care or educational services. Retail trade, which employs a number of people in Springfield (and employs a number of Springfield residents) pays an average annual wage of only \$23,088.

While inflation-adjusted average weekly wages in nine industries in Springfield fell between 2001 and 2004, only the arts, entertainment, and recreation sector had a substantial decline (a 42.5 percent drop). Positively, while the number of manufacturing employers and workers has fallen, the wages paid to manufacturing workers have held constant. Interestingly, despite significant employment declines, the average wage of employees in the management of companies sector increased by 29.2 percent. The information, finance and insurance, and educational services sectors also had average weekly wage increases greater than 10 percent between 2001 and 2004.

**Figure 45**



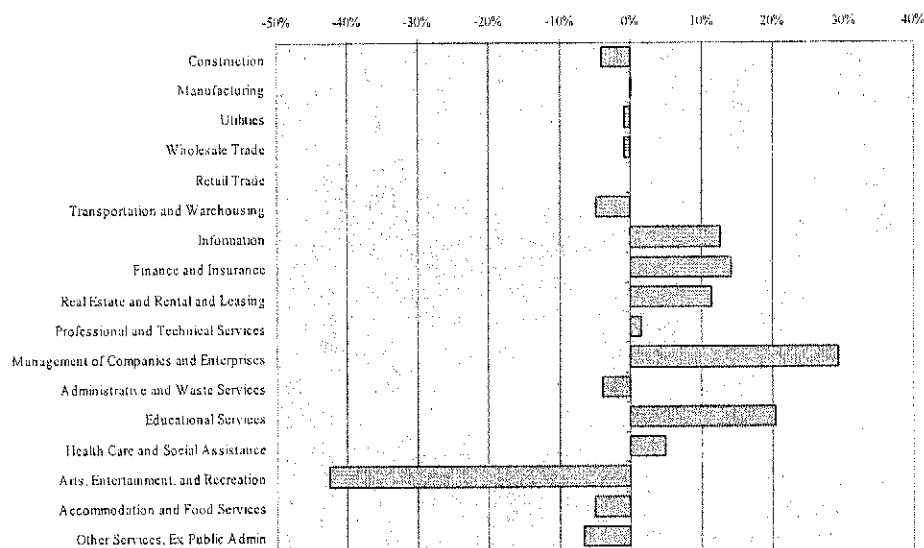
Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages



## A Demographic and Economic Analysis of the City of Springfield

Figure 46

Change in Average Weekly Wages, by Industry from 2001-2004  
(after inflation adjustment)



Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages

Table 12: Average Weekly Wages by Industry, 2004 (in 2004 \$)

	2001	2002	2003	2004
Construction	\$1,112	\$1,130	\$1,077	\$1,066
Manufacturing	\$903	\$896	\$901	\$904
Utilities	\$1,122	\$1,158	\$1,117	\$1,112
Wholesale Trade	\$882	\$858	\$887	\$875
Retail Trade	\$444	\$461	\$460	\$444
Transportation and Warehousing	\$701	\$690	\$680	\$667
Information	\$860	\$886	\$950	\$969
Finance and Insurance	\$1,301	\$1,350	\$1,393	\$1,485
Real Estate and Rental and Leasing	\$573	\$640	\$647	\$639
Professional and Technical Services	\$1,013	\$994	\$1,025	\$1,028
Management of Companies and Enterprises	\$1,021	\$1,140	\$1,327	\$1,319
Administrative and Waste Services	\$400	\$396	\$437	\$384
Educational Services	\$557	\$583	\$686	\$671
Health Care and Social Assistance	\$773	\$784	\$800	\$811
Arts, Entertainment, and Recreation	\$693	\$691	\$529	\$398
Accommodation and Food Services	\$278	\$278	\$275	\$264
Other Services, Ex. Public Admin	\$425	\$407	\$392	\$397
<b>Total, All Industries--All Ownership</b>	<b>\$775</b>	<b>\$783</b>	<b>\$788</b>	<b>\$795</b>
<b>Total, All Industries--Private Ownership</b>	<b>\$761</b>	<b>\$769</b>	<b>\$776</b>	<b>\$779</b>

Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages.

## A Demographic and Economic Analysis of the City of Springfield

### Major Employers

Springfield's major employers in 2006 are in the health care and social assistance, educational, and retail industry sector. Of the 573 employers in Springfield with 20 or more employees, 19.2 percent were in the health care and social assistance sector; 11.9 percent were in the educational services sector; and 10.3 percent were in the retail trade sector. A slightly smaller share of Springfield's employers, 9.8 percent, are in the accommodations and food service sector. The manufacturing sector represents 9.2 percent of Springfield's major employers. Among the sectors in Springfield with the fewest major employers are real estate, 1.4 percent of major employers, and arts, entertainment, and recreation, 1.0 percent. This is perhaps unsurprising since real estate and art or recreation businesses tend to be small.

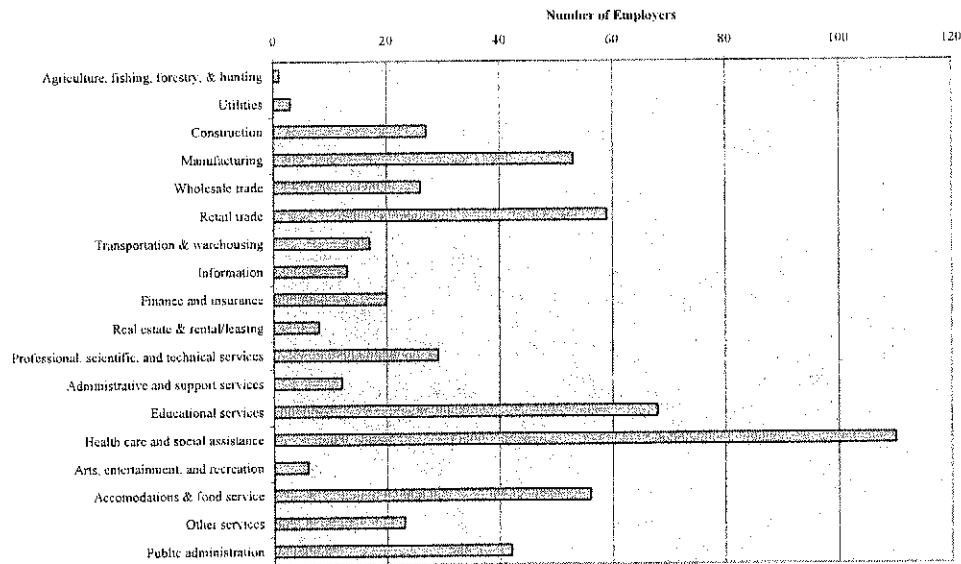
Springfield's largest employers – Bay State Health System, Mercy Hospital, and the Mass Mutual Financial Group – each employ over 4,000 people in Springfield. Combined these three institutions account for nearly one in five jobs in Springfield. Two private colleges are also included in the city's ten largest employers: Springfield College employing 740 people, and Western New England College employing over 650 people. Among the city's 15 largest employers are two manufacturing companies: Solutia Incorporated, a chemical manufacturing company employing 675 persons, and the Titeflex Corporation, a plastics and rubber manufacturing company employing 430 persons. Other large employers in Springfield include Peter Pan Bus Lines, the regional transit and ground-transportation company employing 850 people, and the regional newspaper publishing company employing 800 people.

In terms of size, the majority (56.1 percent) of Springfield's major employers employ between 20 and 49 employees. Establishments with 50 to 99 employees comprise another 24.9 percent of major employers and establishments with 100 to 249 employees are 13.1 percent of major employers. That said, just over five percent of Springfield's major employers have more than 249 employees.

## A Demographic and Economic Analysis of the City of Springfield

**Figure 47**

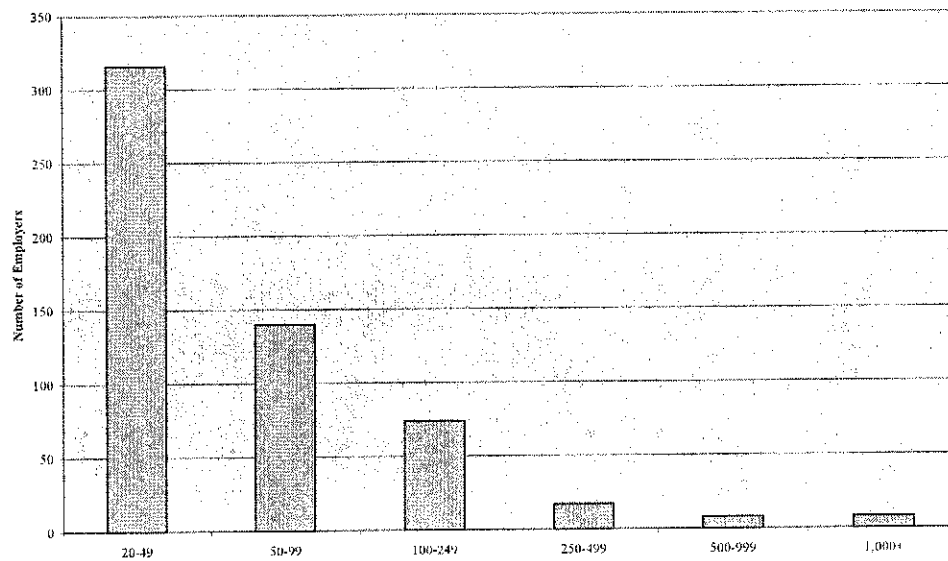
**Number of Major Springfield Employers (20+ Employees) by Industry, 2006**



Source: PVPC analysis of InfoUSA database

**Figure 48**

**Number of Employers in Springfield by Size, 2006**



Source: PVPC analysis of InfoUSA database

## A Demographic and Economic Analysis of the City of Springfield

Table 13: Springfield's Largest Private Sector Employers (100+ Employees), 2006

Company Name	Number of Employees	NAICS Code	
Baystate Medical Center	8000	621	Hospitals
Massachusetts Mutual Life Ins.	5000	523	Securities, Commodity Contracts & Other Financial Investments and Related Activities
Weldon Rehabilitation Hospital	3000	621	Hospitals
Mercy Medical Center	3000	622	Hospitals
Sunday Republican	1000	511	Publishing Industries
Springfield College	740	611	Educational Services
Western New England College	570	611	Educational Services
Solutia, Inc.	530	325	Chemical Manufacturing
Titeflex, Corp.	500	326	Plastics and Rubber Products Manufacturing
Big Y Foods, Inc	500	551	Management of Companies and Enterprises
Preferred People Staffing	500	561	Administrative and Support Services
American International College	462	611	Educational Services
Springfield Tech. Comm. Coll.	450	611	Educational Services
Springfield Wire, Inc	400	333	Machinery Manufacturing
Center For Business & Tech	400	541	Professional, Scientific and Technical Services
Olympus Specialty Hospital	400	623	Nursing and Residential Care Facilities
Baystate Visiting Nurse Assn	350	621	Ambulatory Health Care Services
Bay State Gas Co.	310	221	Utilities
Van-Pak, Inc	300	484	Truck Transportation
Peter Pan Bus Lines, Inc.	300	485	Transit and Ground Passenger Transportation
Arrow Security Corp	300	561	Administrative and Support Services
Wal-Mart	280	452	General Merchandise Stores
Carando Foods	270	311	Food Manufacturing
Shriner's Hospital	260	621	Hospitals
Sheraton	255	722	Food Services and Drinking Places
Sears & Roebuck & Co	250	441	Motor Vehicle and Parts Dealers
New England Farm Workers	250	624	Social Assistance
YMCA	250	713	Amusement, Gambling, and Recreation
Harvey Industries	249	326	Plastics and Rubber Products Manufacturing
Pfg-Springfield	236	311	Food Manufacturing
Springfield Library & Museums	225	712	Museums, Historical Sites and Similar Instits.
Sullivan Associates	220	624	Social Assistance
Springfield Marriott	220	722	Food Services and Drinking Places
Reeds Landing	214	623	Nursing and Residential Care Facilities
Health New England	210	524	Insurance Carriers and Related Activities
C J'S Towing Unlimited Inc	200	441	Motor Vehicle and Parts Dealers

## A Demographic and Economic Analysis of the City of Springfield

American Medical Response	200	485	Transit and Ground Passenger Transportation
Durham School Svc	200	485	Transit and Ground Passenger Transportation
MML Investors Service, Inc.	200	523	Securities, Commodity Contracts & Other Financial Investments and Related Activities
Chapin Center	180	623	Nursing and Residential Care Facilities
Western Massachusetts Elec. Co	174	221	Utilities
Filene's	165	452	General Merchandise Stores
Forest Park Market	160	445	Food and Beverage Stores
Lowe's	150	236	Construction of Buildings
Nu Visions Mfg, LLC	150	334	Computer and Electric Product Manufacturing
Buxton Acquisition Co. LLC	150	423	Merchant Wholesalers, Durable Goods
Big Y Foods	150	445	Food and Beverage Stores
Price Rite	150	445	Food and Beverage Stores
Monarch Life Insurance Co.	150	524	Insurance Carriers and Related Activities
New England Orthopedic Surgeon	150	621	Ambulatory Health Care Services
Radius Ring Healthcare Ctr	150	623	Nursing and Residential Care Facilities
J C Penney Co.	148	452	General Merchandise Stores
Cathedral High School	130	611	Educational Services
Key Program Inc.	125	624	Social Assistance
Valet Park Of America	125	812	Personal and Laundry Services
Securitas Security Svc USA Inc	122	561	Administrative and Support Services
Mead Westvaco Corp	120	322	Paper Manufacturing
Smurfit-Stone Container	120	322	Paper Manufacturing
Mental Health Assoc-Greater	120	624	Social Assistance
Springfield Jewish Comm Ctr-MA	120	813	Religious, Grantmaking, Civic, Professional and Similar Organizations
WGGB	112	515	Broadcasting
ABC 40	107	541	Professional, Scientific and Technical Services
Valley Plating Inc	100	332	Fabricated Metal Product Manufacturing
Blackstone Medical Inc	100	339	Miscellaneous Manufacturing
City Oil Co.	100	424	Merchant Wholesalers, Nondurable Goods
Ready Credit	100	441	Motor Vehicle and Parts Dealers
Big Y World Class Market	100	445	Food and Beverage Stores
Land Air Express New England	100	484	Truck Transportation
R M Sullivan Trans Inc	100	484	Truck Transportation
WTCC	100	515	Broadcasting
Bacon & Wilson Pc	100	541	Professional, Scientific and Technical Services
Early Childhood Center	100	611	Educational Services
Center For Human Development	100	624	Social Assistance
Mercy Hospital Radiology	100	621	Ambulatory Health Care Services
Riverbend Medical Group	100	621	Ambulatory Health Care Services

**A Demographic and Economic Analysis of the City of Springfield**

Child Guidance Clinic	100	622	Hospitals
Greater Springfield Senior Svc	100	624	Social Assistance
UNO Chicago Grill	100	722	Food Services and Drinking Places
UNI First Corp	100	812	Personal and Laundry Services
Area Agency On Aging	100	813	Religious, Grantmaking, Civic, Professional and Similar Organizations

Source: PVPC analysis of InfoUSA database.



## A Demographic and Economic Analysis of the City of Springfield

### Real Estate in Springfield

#### Profile of Springfield Housing

In 2004, there were an estimated 63,441 housing units in the City of Springfield, approximately one of every four units in the wider metropolitan area. The total number of housing units has not changed significantly for some time. Between 2001 and 2004 the total number of housing units is estimated to have increased from 62,547 to 63,441, only a 1.4 percent increase.

Of the city's housing units, nearly one in ten (9.3 percent) were vacant in 2004. While many of these units were vacant because they were for sale or rent, 34.1 percent were long-term vacant. That 38.6 percent of vacant units were vacant because of availability for rent may suggest that rental properties in Springfield turnaround slowly. Unfortunately, the number of housing units that are vacant for reasons other than rental, sale, or seasonality is steadily increasing. The number of housing units that are vacant for reasons other than rental, sale, or seasonality increased from just above 1,000 in 2001 to above 2,000 by 2004. While the data does not allow us to definitively determine a cause for this increase, it likely reflects an increase in the number of abandoned residential properties in the city.

Springfield has a diverse mix of housing with both numerous single and multi-family residential structures. Nearly 30,000 housing units, 45.6 percent of the total, are in single-family buildings. Almost a third of housing units are in small multi-family buildings with between two and four units, while one in five housing units in Springfield are in buildings with five or more units.

Notably, Springfield's housing stock, like that of many older industrial cities in New England, is old. More than half of the city's housing stock was built before 1950 and 45.5 percent was built prior to 1940. Less than a quarter of the city's housing stock was built in the last 35 years. This creates significant maintenance and upkeep challenges for the city's homeowners and landlords, but it also reflects the presence of numerous historic homes across the city and is a source of the city's moniker the "City of Homes."

Examining the relationship between the city's housing stock and its residents, several things are immediately evident. First, the city's white, non-Hispanic residents are much more likely to be homeowners than either Black or Hispanic residents. Nearly 20,000 of the city's owner-occupied housing units are occupied by white, non-Hispanic households, more than double the number of the city's other racial groups combined. In contrast, the Black and Hispanic populations of the city are renters of nearly twice as many properties as the white, non-Hispanic population.

Furthermore, the white, non-Hispanic residents of the city are much more likely to live in single-family detached homes than nearly any other racial group. More than 60 percent of white, non-Hispanic households live in single-family homes, compared to less than 35 percent of Black households and less than 20 percent of Hispanic households. Nearly 20 percent of the city's Hispanic households live in housing units in 3 and 4 unit structures, a higher percentage than for any other group. Relating housing and households to transportation, nearly 31 percent of Hispanic households do not have a vehicle available to them, compared to 24.5 percent of Black households and only 11.4 percent of white, non-Hispanic households.

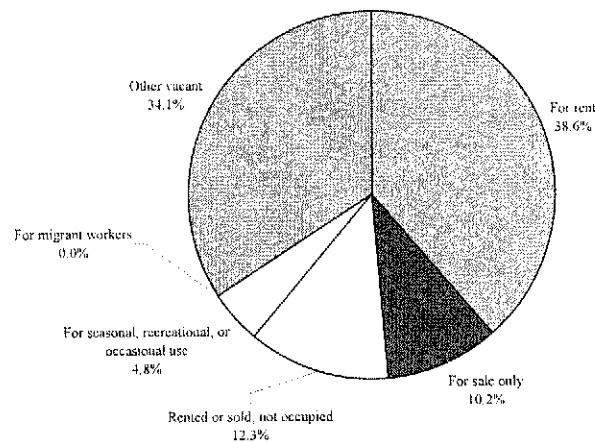
Unsurprisingly, the rental population of the city is much younger than the owner population. Among households headed by individuals 25 to 34 years of age, nearly twice as

### A Demographic and Economic Analysis of the City of Springfield

many rent their residence than own it. In contrast, nearly twice as many households headed by 45 to 54 year olds are owned than rented. Among the elderly population, those 65 and older, there are more owners than renters in every age category, but the gap narrows substantially in the oldest age group, those 85 and older.

**Figure 49**

Vacant Housing Units in Springfield by Reason for Vacancy, 2004

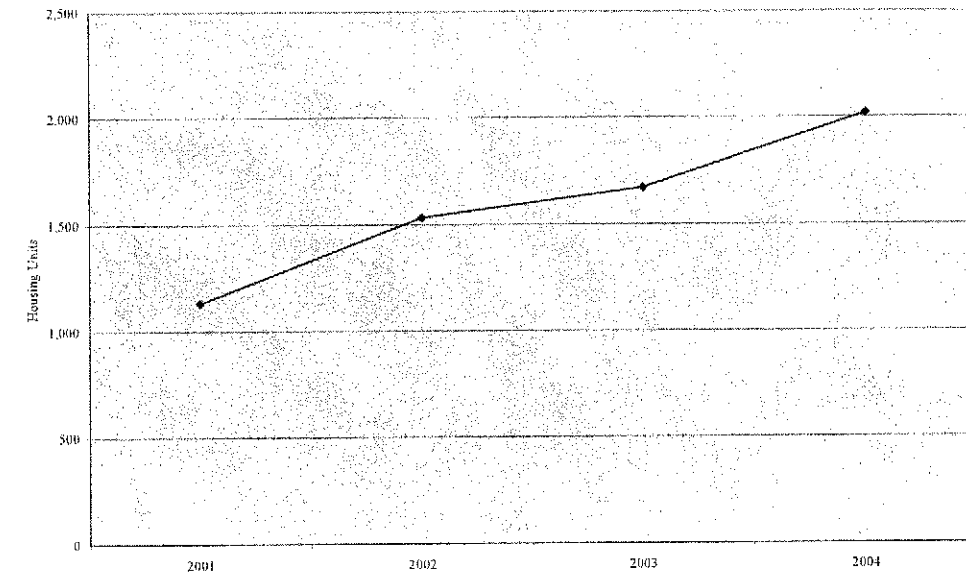


Source: U.S. Census Bureau, American Community Survey

## A Demographic and Economic Analysis of the City of Springfield

**Figure 50**

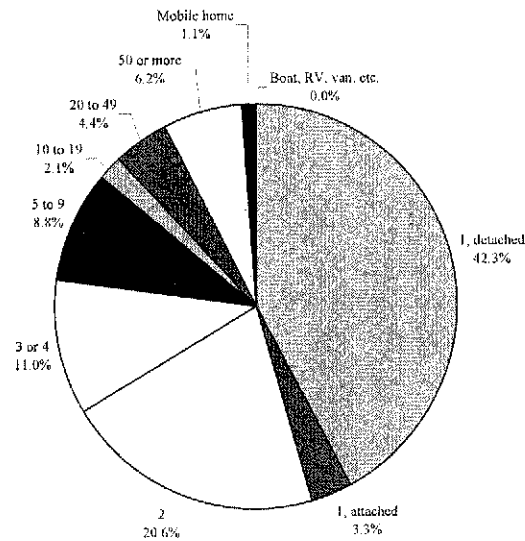
Springfield Housing Units that are Vacant and not Seasonal, for Rent, or for Sale, 2001-2004



Source: U.S. Census Bureau, American Community Survey

**Figure 51**

Springfield's Housing Units by Building Size, 2004



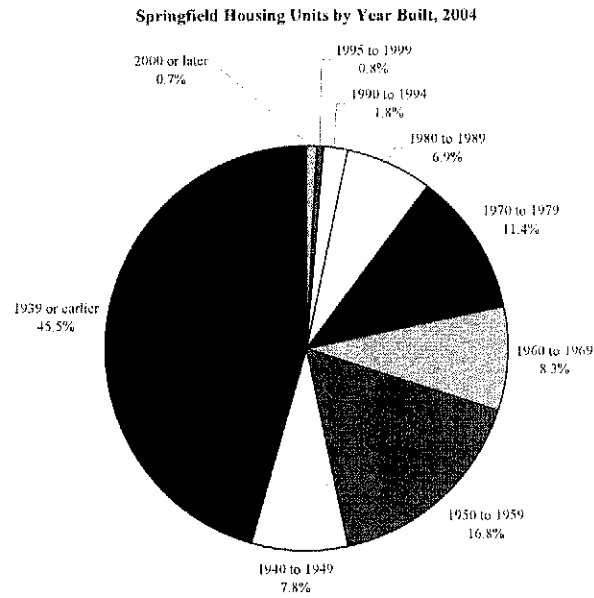
Source: U.S. Census Bureau, American Community Survey

# EXHIBIT B

## (Part 3)

# A Demographic and Economic Analysis of the City of Springfield

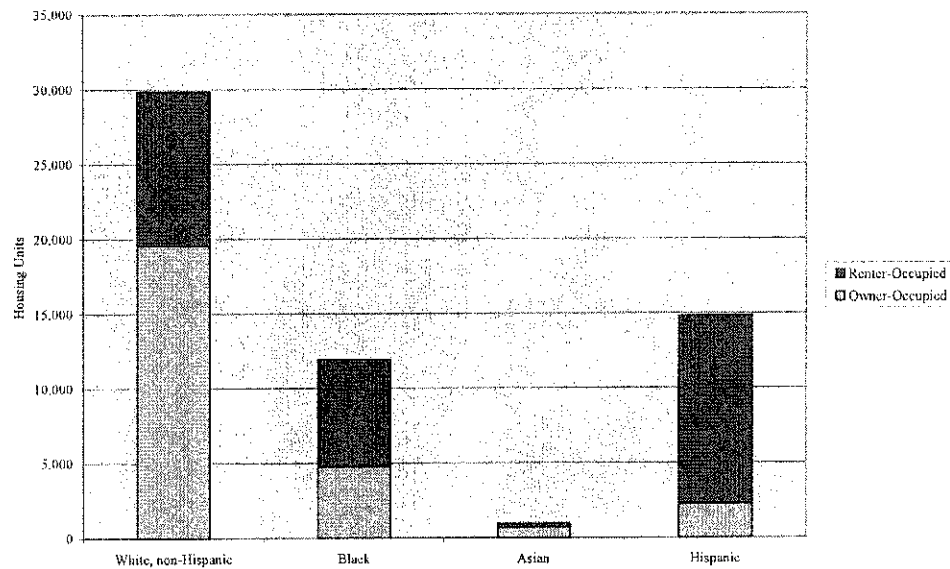
**Figure 52**



Source: U.S. Census Bureau, American Community Survey.

**Figure 53**

**Occupied Housing Units in Springfield by Race and Tenure Status, 2004**

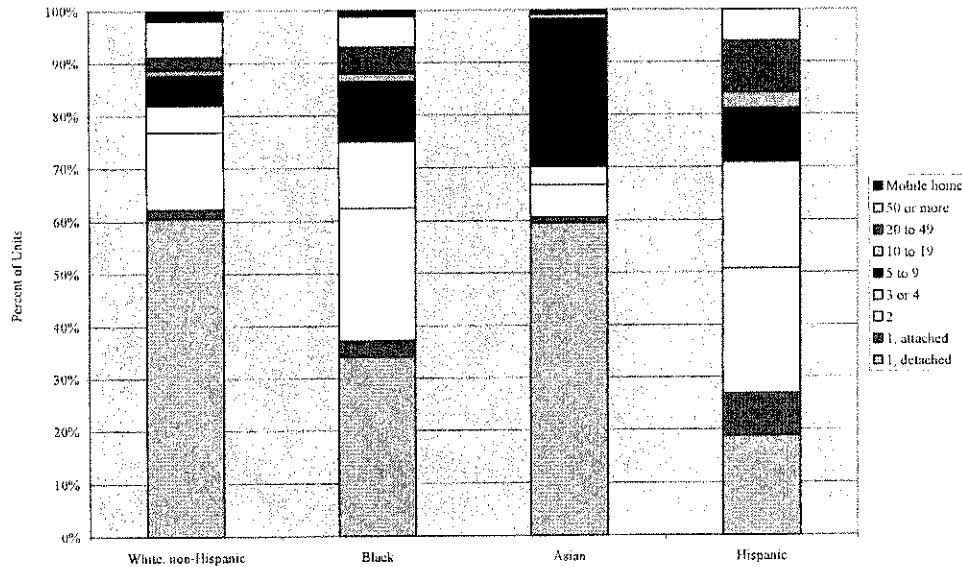


Source: U.S. Census Bureau, American Community Survey.

# A Demographic and Economic Analysis of the City of Springfield

Figure 54

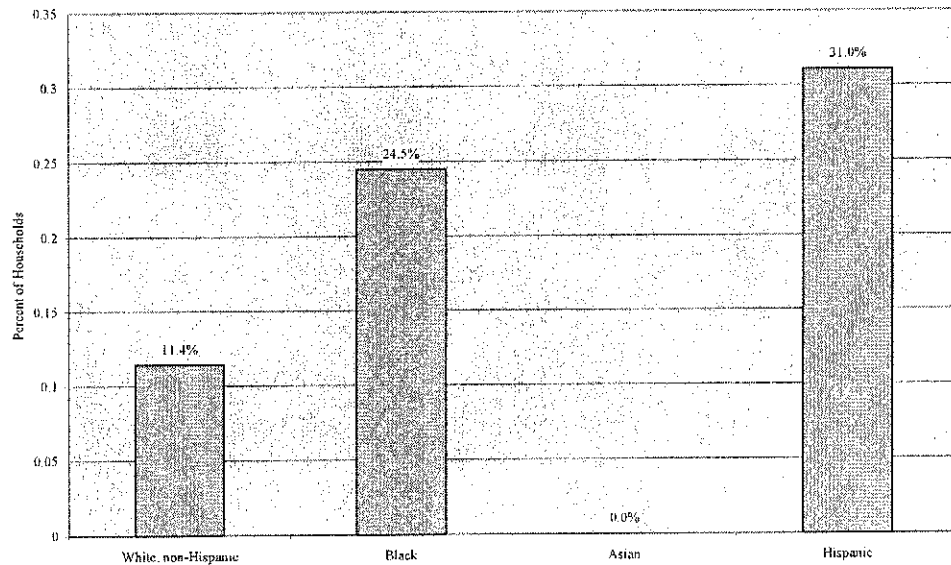
Percent of Springfield Units by Building Size and Race of Householder, 2004



Source: U.S. Census Bureau, American Community Survey

Figure 55

Percent of Households without a Vehicle in Springfield by Race, 2004



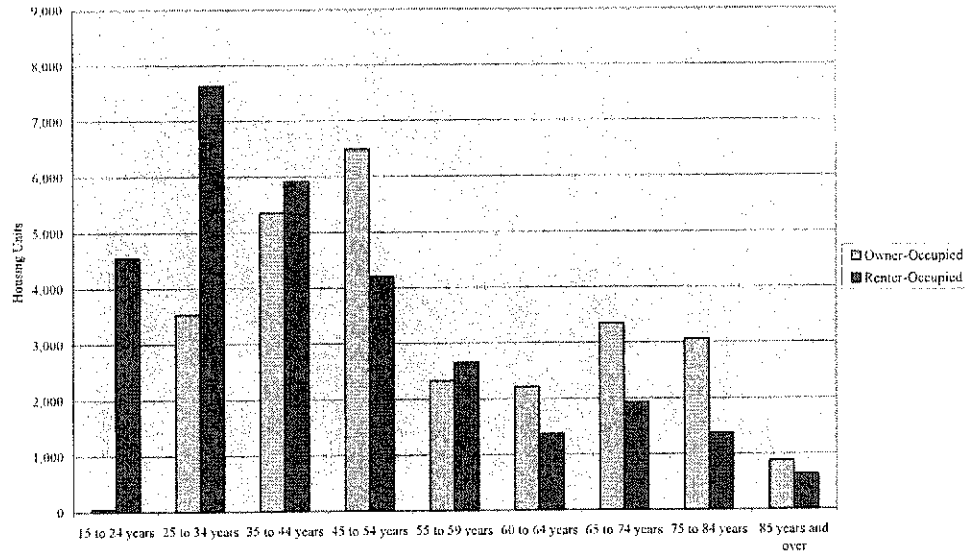
Source: U.S. Census Bureau, American Community Survey



# A Demographic and Economic Analysis of the City of Springfield

**Figure 56**

Springfield's Occupied Housing Units by Householder Age and Tenure Status, 2004



Source: U.S. Census Bureau, American Community Survey.

## A Demographic and Economic Analysis of the City of Springfield

### Residential Real Estate Market

The market for single family homes in Springfield was devastated in the late 1980s and early 1990s as the number of sales of single family homes fell from about 1,200 in 1988 to under 800 by 1991 (overall a drop of 45.8 percent in number of sales over a four-year period). However, since 1991 the single family housing market in Springfield has improved considerably. Despite a brief decline in annual sales between 2000 and 2002, likely the result of the national economic recession, the city has seen steadily increasing sales from 1991 through 2005. An increase in number of sales is not always positive. If the number of sales is increasing because the community is becoming more transitional it could be detrimental to community cohesion.

Data on the median sale price of single family homes suggests this may have occurred in Springfield through the 1990s. While the number of sales increased steadily from 1991 through 2000, the median sale price of a single family home (in inflation-adjusted 2005 dollars) fell from \$123,771 in 1991 to \$76,100 by 1996. In a span of five years, the median single family home in Springfield lost 38.5 percent of its market value. This may indicate that the increase in sales during the early 1990s was a result of houses turning over quickly without values increasing. Positively, since 1996 the median price of single family homes in Springfield has increased steadily, reaching \$135,000 by 2005, making up the losses since 1991. If median single family prices continue to rise as they have since 1996, the median price of a single family home in Springfield will reach nearly \$160,000 by 2010.

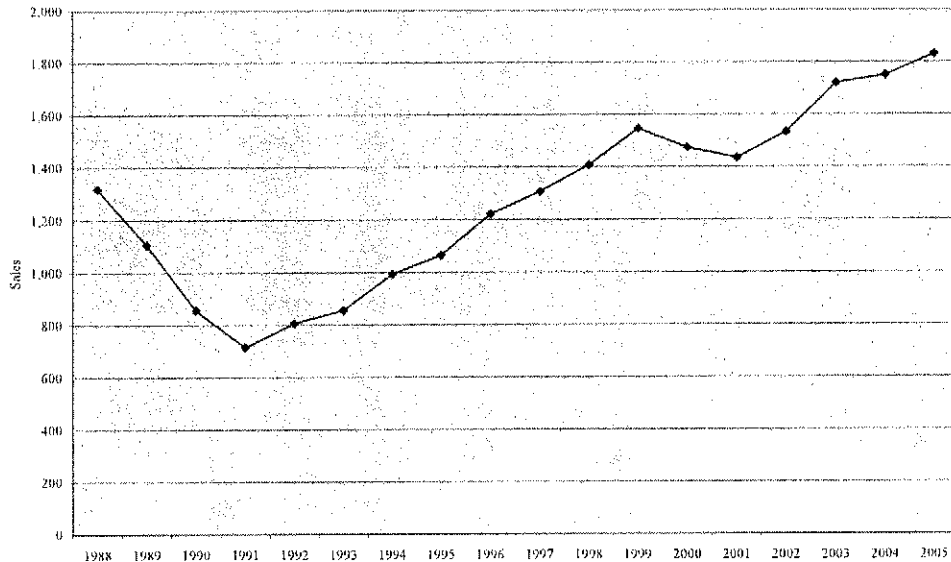
With the precipitous drop in the number of single-family homes sold per year, and a simultaneous drop in prices, during the late 1980s and early 1990s, the pace of housing construction slackened. In 1987, 317 permits were pulled for the construction of single-family homes in Springfield, but by 1996 the number of permits pulled for the year was only 31 (a drop of 90.2 percent). Since 1996, there has been a resurgence in the construction of single-family housing units, but annual numbers of permits have not nearly reached their 1987 peak. In 2004, 163 permits were pulled for the construction of new single-family housing units and this dropped slightly to 126 permits in 2005. It is unsurprising that the pace of new single-family construction began to increase at the same time, in 1996, that the median price of single-family homes began climbing.

Unlike single-family new construction, the construction of new multi-family residential units has not recovered nearly as well from the late 1980s plunge. Multi-family unit construction peaked in 1987 with permits pulled for 588 units. By 1991 this number had fallen by 88.8 percent to only 66 units permitted. The number of multi-family units permitted remained low and continued fluctuating until it hit bottom with only four units permitted in the year 2000. Since 2000 there has been some recovery in the number of multi-family units permitted as the number increased to 86 units by 2005, though this remains 85.4 percent below the peak in 1987.

# A Demographic and Economic Analysis of the City of Springfield

**Figure 57**

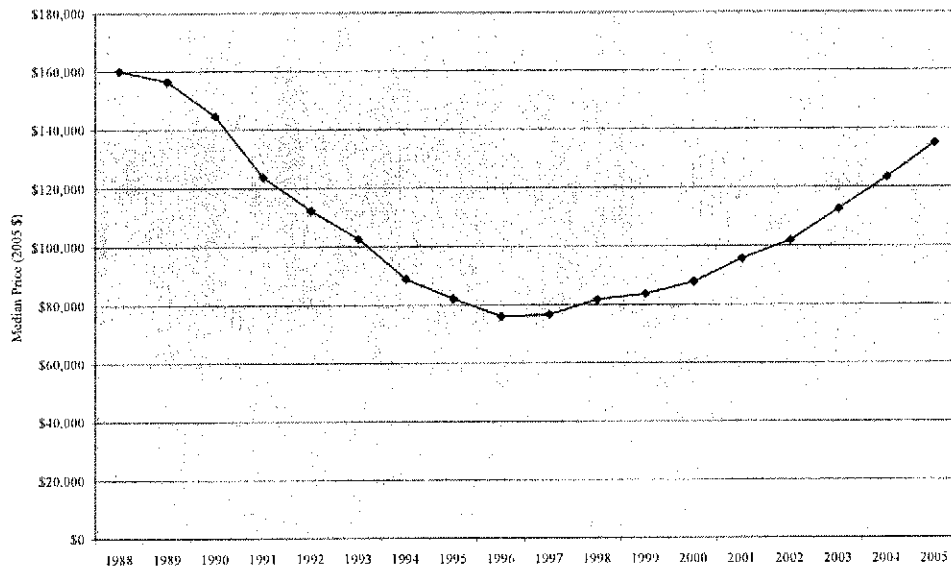
**Number of Single-Family Home Sales in Springfield, 1988-2005**



Source: The Warren Group

**Figure 58**

**Median Sale Price of Single-Family Homes in Springfield, 1988-2005**

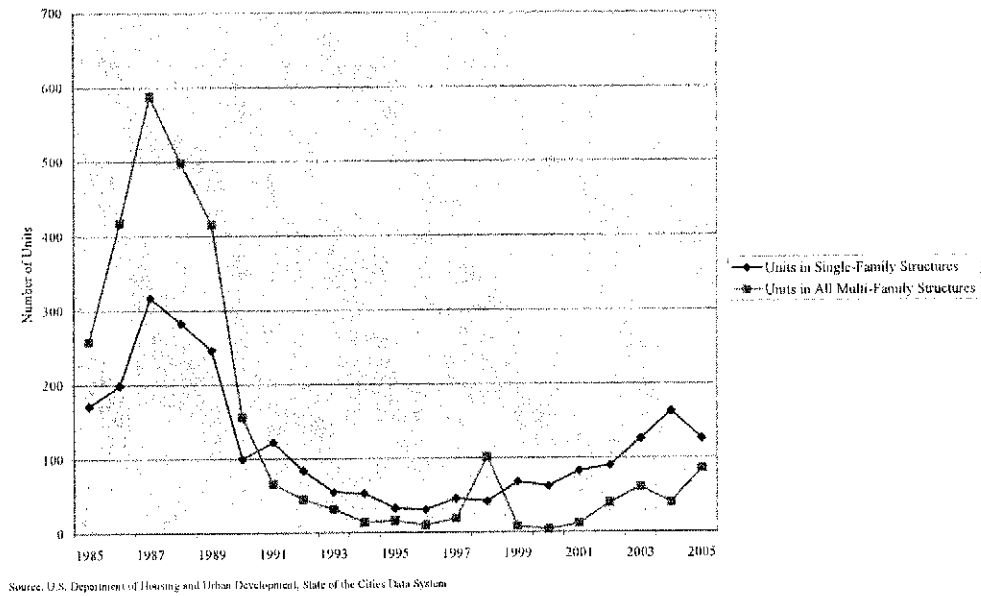


Source: The Warren Group

# A Demographic and Economic Analysis of the City of Springfield

**Figure 59**

**Building Permits Issued for Housing Units in Springfield, 1985-2005**



## A Demographic and Economic Analysis of the City of Springfield

### Residential Real Estate Costs

While housing costs facing renters in Springfield have not increased as much as has been the case across Massachusetts, the median gross rent for Springfield renters, after adjusting for inflation, rose by 8.8 percent between 2000 and 2004. This increase means renting at the median price in Springfield increased by \$52 per month or \$624 per year. While this may not seem substantial, it is reflected in the percentage of Springfield renters whose housing is considered unaffordable. Housing analysts generally consider housing to be affordable if it costs less than 30 percent of their gross income. As of 2004, more than half (54.7 percent) of Springfield's households that rented their home were spending more than 30 percent of their income on housing, up from 46.3 percent in 2001. Perhaps even more troubling, 29.4 percent of Springfield's renting households paid more than 50 percent of their income in rent, up from 24.4 percent in 2001.

Comparing owners and renters in Springfield, it becomes immediately obvious that owning a home in Springfield is relatively affordable and renting is less affordable. For example, while 53.1 percent of renters pay 30 percent or more of their income in housing costs, only 34.0 percent of home owners pay such a large percentage of their income for housing. For obvious reasons, owners without mortgages pay the least for housing and only 16.1 percent of this group pay more than 30 percent of their income in housing costs. The evident unaffordability of renting in Springfield is likely a result of the low incomes of those households renting their homes. Housing prices are low enough that those who can assemble the necessary capital are generally able to purchase a home and not face exorbitant monthly costs relative to their income. On the other hand, rent is high enough that those with low incomes and an inability to purchase a home are likely to pay a large portion of their income for housing.

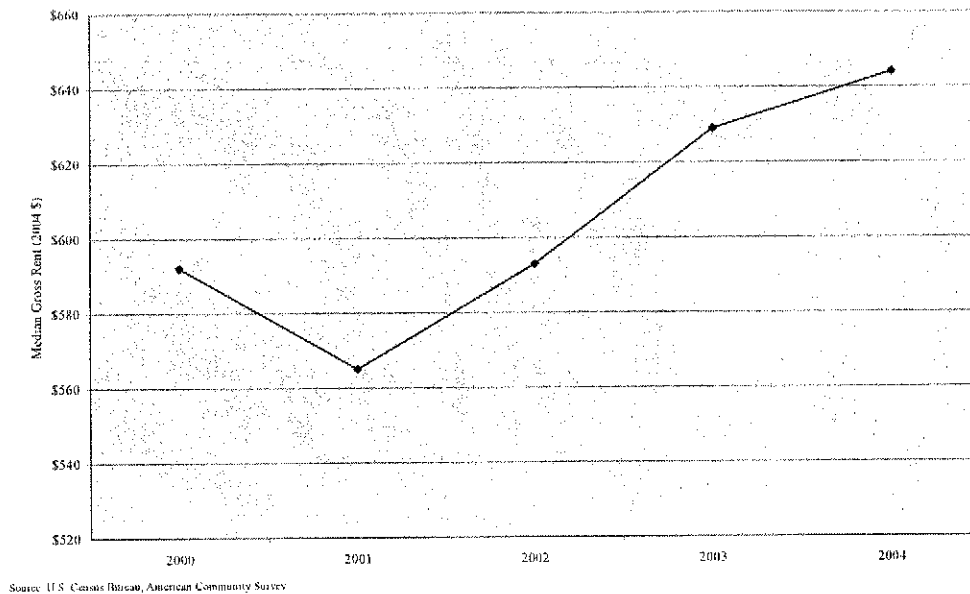
Despite rising housing costs and the generally lower incomes of Springfield residents, there does not appear to have been an increase in mortgage foreclosures in Springfield in the recent past. Between 1997 and 2005 the overall number of foreclosures in Springfield fluctuated between 620 in 1997 and 407 in 2003. Since the low point in 2003 the annual number of foreclosures in Springfield has increased slowly, to 467 in 2004 and 560 in 2005. It is possible that this recent increase reflects a trend that may continue as housing prices and the activities of predatory lenders grow.

Analyzing the number of foreclosures per 1,000 residents of Springfield further suggests that the 2003 to 2005 increase in foreclosures is a real phenomena that is different than the otherwise steady rate of foreclosures between 1993 and 2003. Furthermore, the number of tax liens levied against properties in Springfield, per 1,000 residents has increased dramatically from 2.25 tax liens per 1,000 residents in 2002 to 4.64 in 2005 (an increase of 106.2 percent). The increase in tax liens reflects more aggressive activity on the part of the City. Perhaps more troubling is the increase in the number of bankruptcies filed per person in Springfield. The rate rose from 0.67 in 2001 to 7.81 in 2005. It is possible that the dramatic increase from 2004 to 2005 was a result of the Federal changes in bankruptcy laws that prompted many people to file before the new law came into effect. Nevertheless, there is some reason to believe that Springfield residents are facing increasingly challenge financial situations.

# A Demographic and Economic Analysis of the City of Springfield

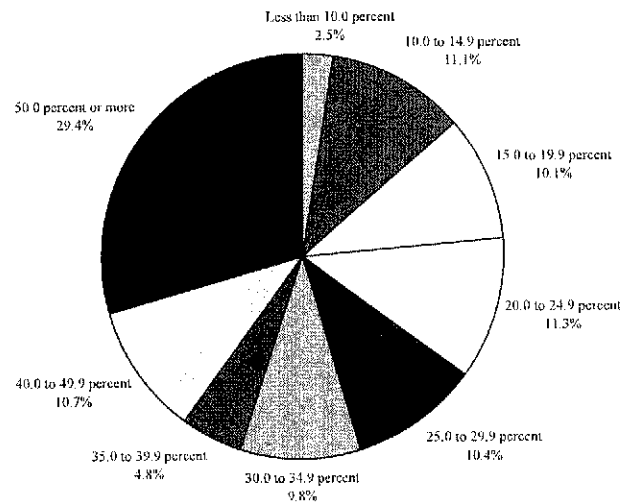
**Figure 60**

Median Gross Rent in Springfield, 2001-2004



**Figure 61**

Springfield Renter Households by Percent of Income Paid in Rent, 2004

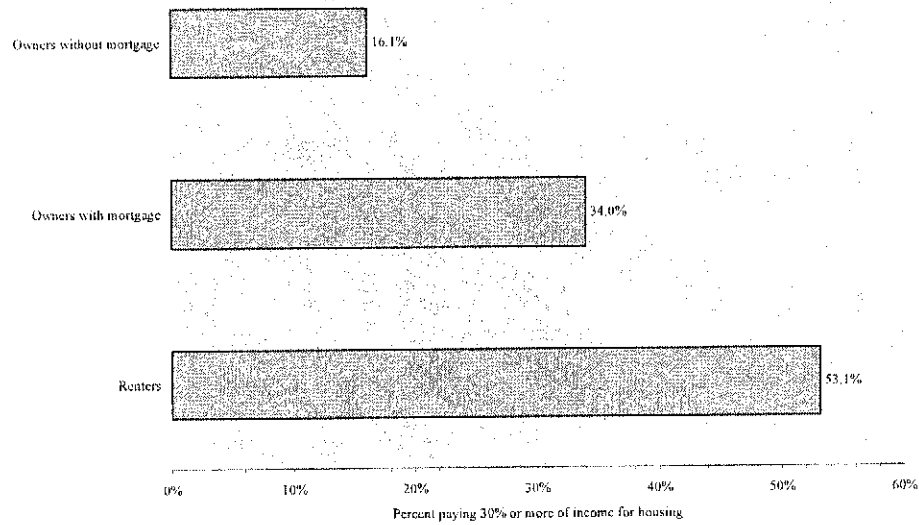




## A Demographic and Economic Analysis of the City of Springfield

**Figure 62**

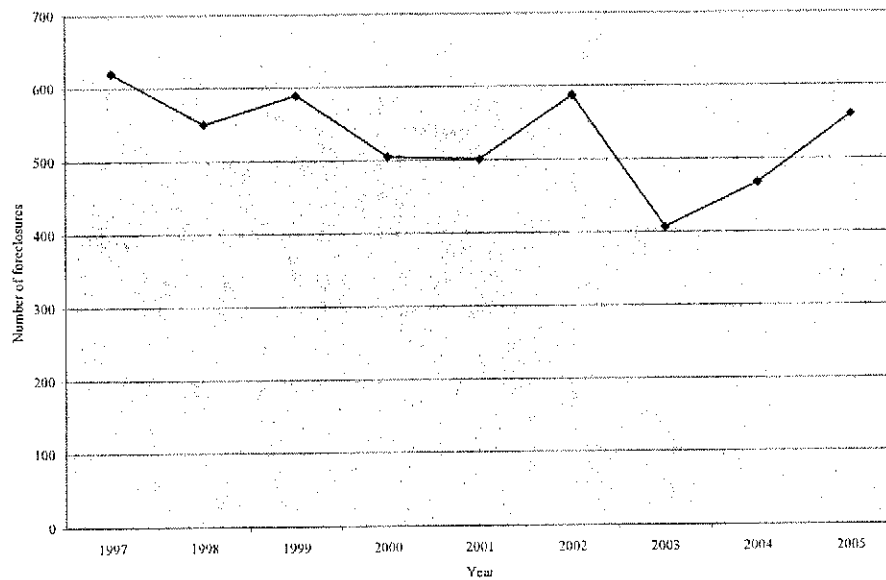
**Occupants with a Housing Cost Burden in Springfield 2004**



Source: U.S. Census Bureau, American Community Survey.

**Figure 63**

**Springfield Foreclosures**

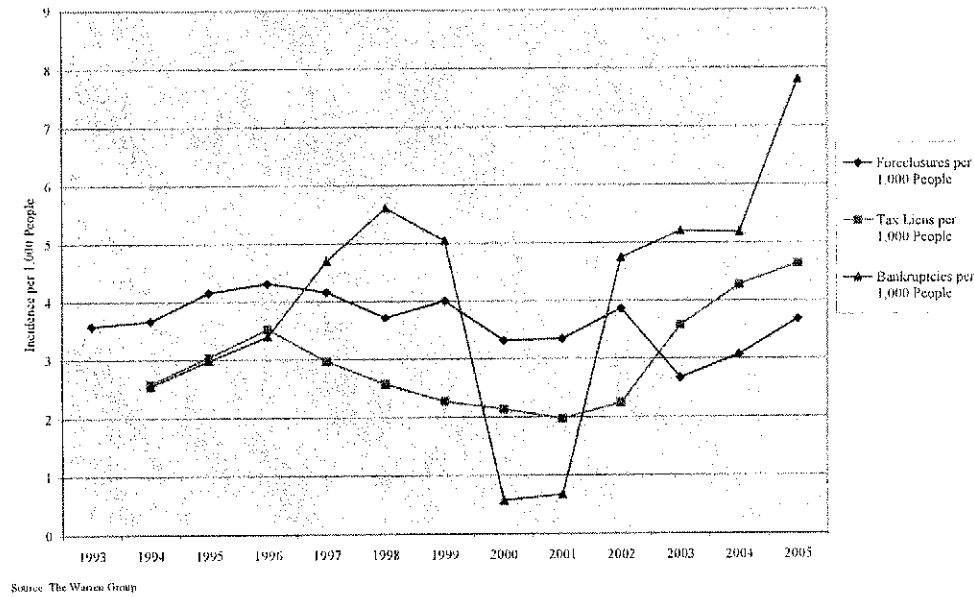


Source: The Whitten Group.

# A Demographic and Economic Analysis of the City of Springfield

**Figure 64**

Indicators of Financial Difficulty among Springfield Residents, 1993-2005



## A Demographic and Economic Analysis of the City of Springfield

### Springfield Office Space

Springfield has substantial office space capacity in Classes A, B, and C. Class A office space was constructed after 1965 and is maintained by professional management; Class B office space was either built before 1965, rehabbed, and maintained by professional management, or was built after 1965 and is maintained by moderate quality management; and, Class C office space was built before 1965 and is maintained by moderate quality management. Since 1994, the office space market in Springfield has generally tightened with falling vacancy rates. For example, between 1994 and 2003, the vacancy rate for Class C office space in Springfield fell from 44.3 percent to 28.4 percent. Class A office space is in particularly short supply with vacancy rates remaining below seven percent between 1998 and 2003. Nevertheless, the fact that nearly one-third of Class C office space and 16.0 percent of Class B office space was vacant in 2003 indicates that there is sufficient capacity to accommodate growth, particularly that of small businesses that are not likely in the market for Class A space.

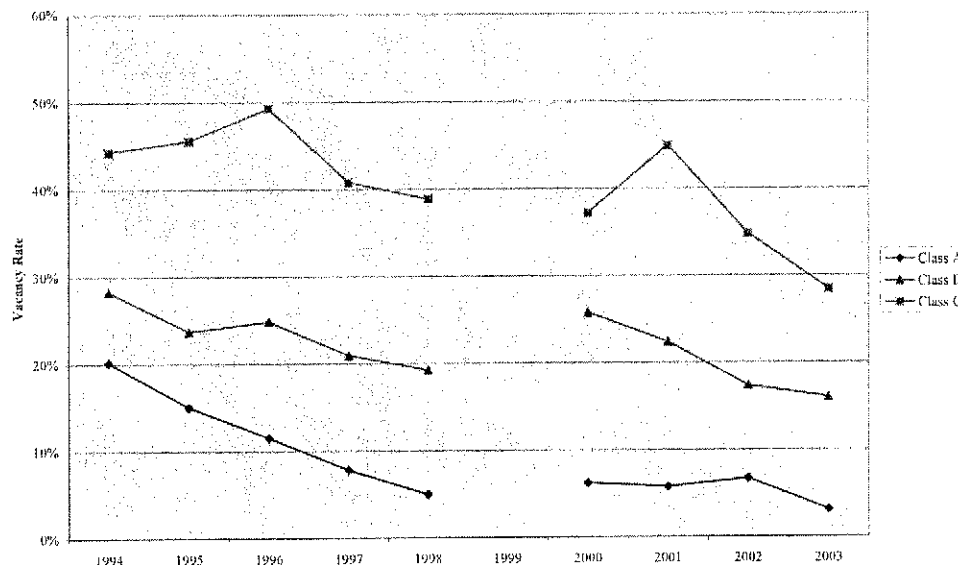
Positively, when comparing Springfield office vacancy rates with that of Greater Springfield, the rates for both Class A and Class C are lower in Springfield than in the region as a whole. This suggests that office space of these two classes is easier to lease in Springfield than in the remainder of the region. The vacancy rates for Class B office space are similar with the region having a somewhat lower rate. In total, there was 471,280 square feet of vacant office space in Springfield in 2003.

Class A office space in Springfield leases for between \$16 and \$18.50 per square foot, somewhat higher than the \$12 to \$21 per square foot rates in the region as a whole. Class B office space in Springfield leases for about the same amount as Class B space across the region, between \$8 and \$13 per square foot. It is Class C office space that is a bargain in Springfield with lease rates ranging from \$6 to \$8 compared to regional rates from \$6 to \$14. New business development and entrepreneurship should be encouraged in an environment in which businesses can find, for example, 2,500 square feet of professionally managed (Class B) office space for \$20,000 per year.

# A Demographic and Economic Analysis of the City of Springfield

Figure 65

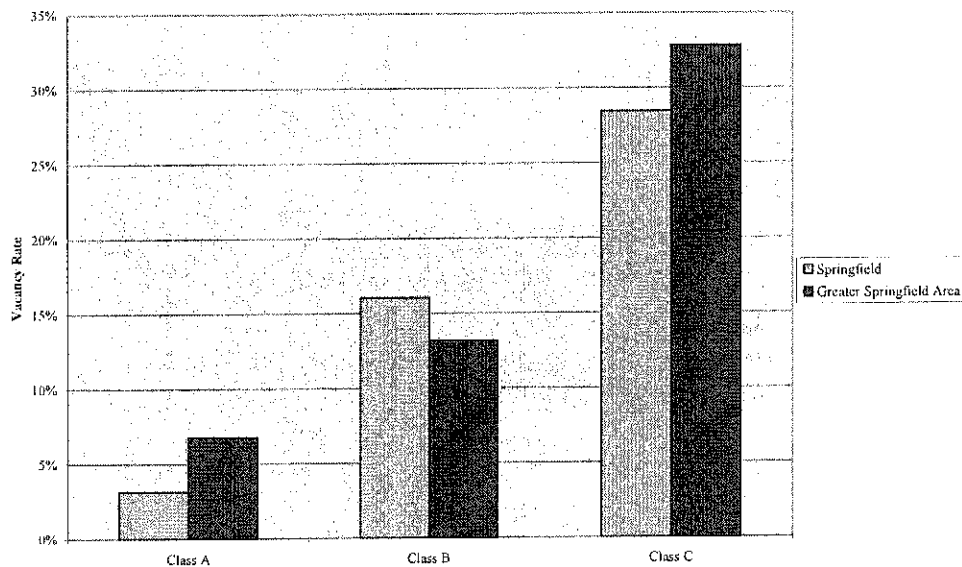
Springfield Office Space Vacancy Rates by Class



Source: Colchbrook Realty Group

Figure 66

Comparing Springfield Office Space Vacancy Rates with Greater Springfield, 2003

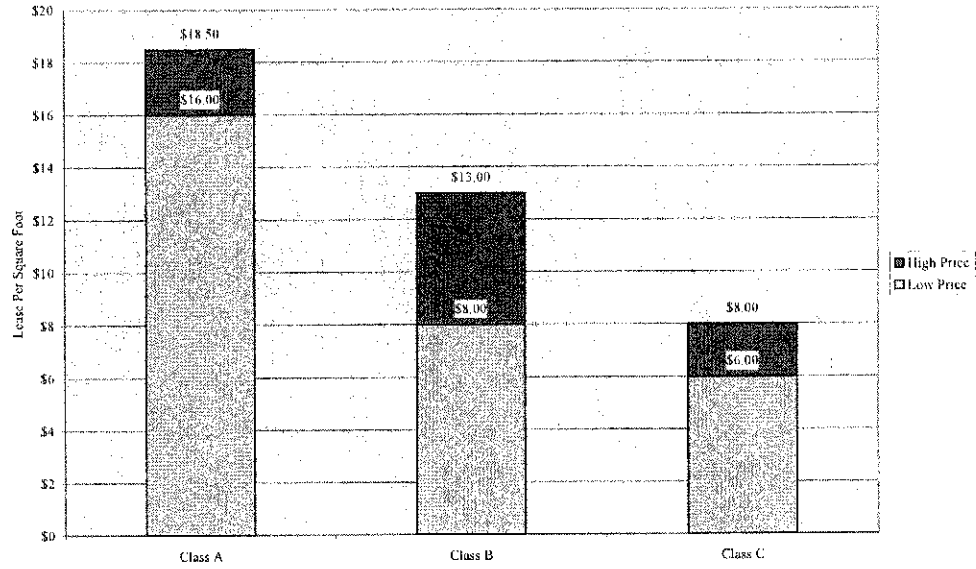


Source: Colchbrook Realty Group

# A Demographic and Economic Analysis of the City of Springfield

**Figure 67**

Typical Prices per Square Foot for Springfield Office Space, 2003



Source: Goldmark Realty Group

## A Demographic and Economic Analysis of the City of Springfield

### Commercial and Industrial Real Estate Market

Examining the overall market for commercial and industrial property in Springfield, it is evident that the market is active. In the last year (August 2005 to August 2006) a total of 18 commercial and industrial buildings in Springfield were sold, totaling 190,000 square feet of space. Of this total, 36 percent was warehouses, 27 percent was commercial buildings (including retail), 22 percent was industrial, and 15 percent was office space (including medical offices).

As of August 2006, there were 24 commercial or industrial buildings for sale in Springfield and 26 with space available for lease. Interestingly, comparing the average square footage of buildings for sale with those sold during the last year, it is evident that the smaller buildings are most likely to sell quickly. For example, the average size of commercial buildings for sale is 93,329 square feet compared to only 6,500 square feet for commercial buildings that sold in the last year. Likewise, the average size of warehouse buildings on the market currently, at 227,417 square feet, is ten times the 22,667 square feet of the average warehouse building sold in the last year.

Among properties presently for sale in Springfield, commercial buildings are listed for the highest average price (\$105 per square foot) and warehouses are listed for the lowest average price (\$22 per square foot). Industrial property are also relatively inexpensive averaging \$46 and \$57 per square foot respectively. As with sale prices, lease rates in Springfield are highest for commercial properties at an average of \$12.55 per square foot. Office space leases at nearly the same rate, \$12.51 per square foot. Lease rates for warehouse space, as with sale prices, are the lowest at \$6.56 per square foot.

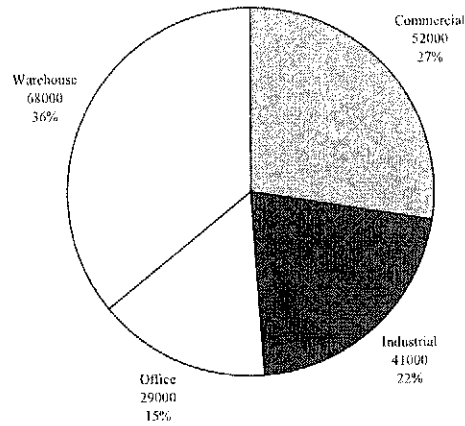
If the present stock of commercial and industrial properties for sale or lease is any indication, there is significant available space in Springfield for new business development or business expansions. As of early August 2006, approximately 450,000 square feet of commercial and industrial buildings were for sale in Springfield and another 485,000 square feet of space was available for lease. With respect to both purchases and rentals the majority of available space is in warehouse buildings with nearly a half million square feet available. There is also substantial office space available for lease with 208,000 square feet awaiting tenants. Importantly, according to listings in August of 2006, less than 50,000 square feet of industrial buildings were available for sale and no industrial properties were available for lease. This suggests that while warehouse and office space appears plentiful, there is limited available property for new or expanding industrial operations.

With respect to new commercial and industrial construction, whether public or private sector, the city issued 107 permits in 2005 with the estimated value of construction at \$11,992,535. However, the public and private investment in commercial and industrial rehabilitation or alterations is much larger with 249 permits issued in 2005 and construction estimated to cost \$57,061,276. In the last five years the level of new and rehabilitation construction for commercial and industrial properties appears to have ebbed and flowed with no obvious trend.

## A Demographic and Economic Analysis of the City of Springfield

**Figure 68**

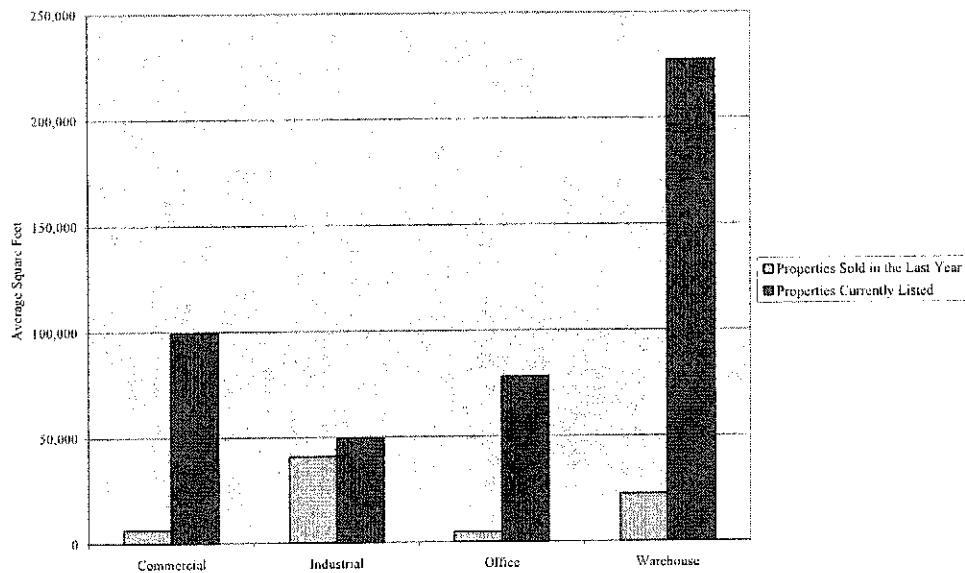
Total Square Footage of Buildings Sold in Springfield in the last Year by Type, 2006



Source: PVPC analysis of data from [www.koopnet.com](http://www.koopnet.com)

**Figure 69**

Average Square Footage of Buildings in Springfield Sold and Listed for Sale, 2006



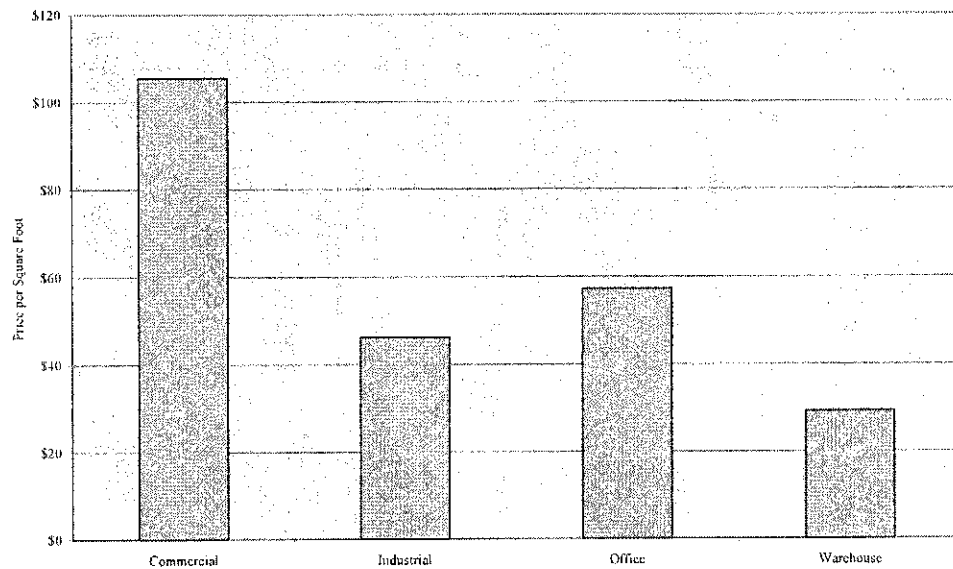
Source: PVPC analysis of data from [www.koopnet.com](http://www.koopnet.com)



## A Demographic and Economic Analysis of the City of Springfield

**Figure 70**

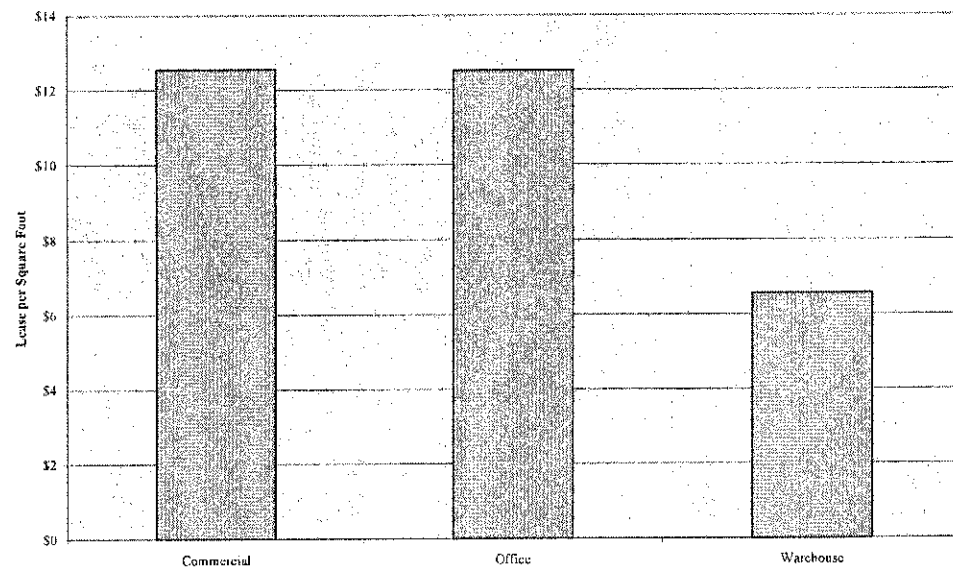
Average Price per Square Foot for Buildings for Sale in Springfield by Type, 2006



Source: PVPC analysis of data from www.loopnet.com.

**Figure 71**

Average Prices per Square Foot for Buildings available for Lease in Springfield by Type, 2006

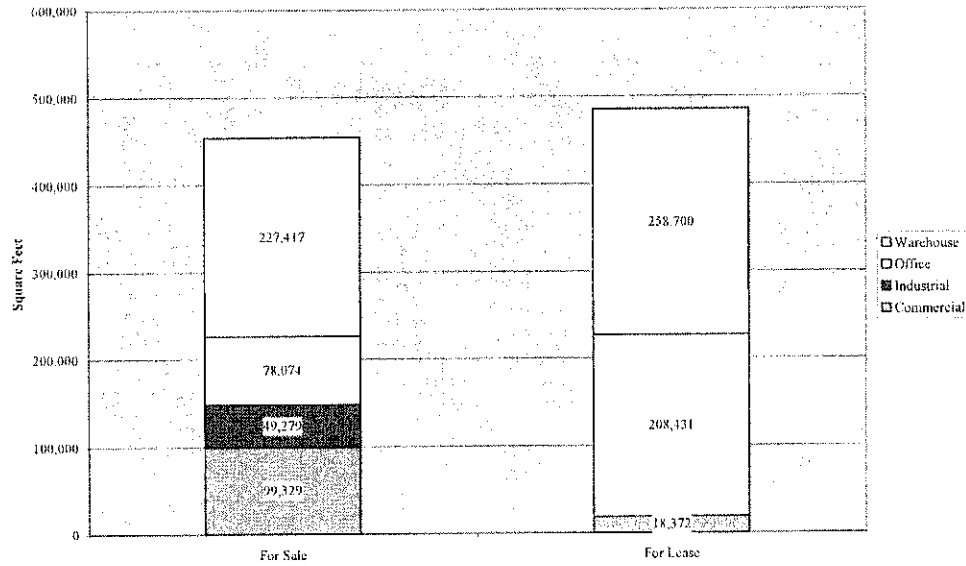


Source: PVPC analysis of data from www.loopnet.com.

## A Demographic and Economic Analysis of the City of Springfield

Figure 72

Square Footage of Buildings Available for Sale or Lease in Springfield by Type, 2006



Source: PVPC analysis of data from www.hoqnet.com

## A Demographic and Economic Analysis of the City of Springfield

### Brownfields Revitalization

One opportunity for future commercial and industrial development in Springfield could be realized in the clean-up and return to productive use of the city's environmentally contaminated brownfields. Excluding residential properties with environmental contamination and commercial and industrial properties that are not in any way tax delinquent, there are an estimated 53 brownfields in Springfield. Of these, 15 have been confirmed to be brownfields by the Massachusetts Department of Environmental Protection, while 38 are suspected sites. Positively, the 15 confirmed sites represent 74 percent of the suspected commercial and industrial brownfield land, meaning the largest sites have been confirmed.

For the purposes of redevelopment, 80 percent of all brownfields land area is already municipally-owned having gone through the tax title and foreclosure process. Of the remaining 24 properties and 20 percent of land area, the city has taken 14 of the properties into Land Court for purposes of eventual foreclosure. While only six of the 53 brownfields have even had a site assessment and only four have begun any clean-up or remediation process, these six properties alone represent 55 percent of the city's commercial and industrial brownfields land area. This suggests that the City is effectively prioritizing those brownfields with the greatest potential for redevelopment.

**Table 14: Analysis of Springfield's Commercial and Industrial Brownfields**

Summary of Springfield Brownfields	Number of Sites	Percent	Percent of Land Area
Suspect Brownfields	38	72%	26%
DEP21E Brownfields	15	28%	74%
<b>Total Number of Brownfields</b>	<b>53</b>	<b>100%</b>	<b>100%</b>

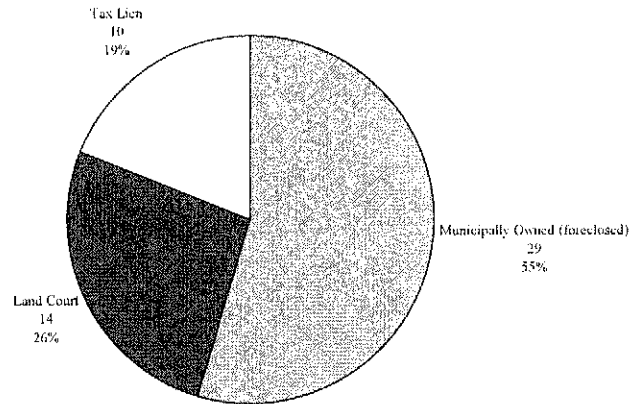
Distribution of Brownfields	Number of Sites	Percent	Percent of Land Area
<b>Occupancy</b>			
Occupied Brownfield Sites	4	8%	5%
Vacant Brownfield Sites	49	92%	95%
<b>Tax Status</b>			
Municipally Owned (foreclosed)	29	55%	80%
Land Court	14	26%	6%
Tax Lien	10	19%	14%
<b>Clean-Up Status</b>			
No Clean Up or Assessment So Far	9	17%	20%
Comprehensive Site Assessment	2	4%	5%
Implementation of Clean-Up	2	4%	31%
Continuous Maintenance and/or Monitoring	0	0%	0%
Activity and Use Limitation (AUL)	2	4%	19%
Undocumented	38	72%	26%

Source: PVPC analysis of Springfield brownfield's inventory.

## A Demographic and Economic Analysis of the City of Springfield

**Figure 73**

Tax Status of Springfield Brownfields, 2006



Source: PVPC Brownfields Inventory

## A Demographic and Economic Analysis of the City of Springfield

### Analyzing Labor Supply and Demand

#### Occupational Overview

The predominant industry sector in which Springfield residents work is health care and social assistance, an industry that employs 16.8 percent of the city's working population. Manufacturing is the second largest employer of Springfield residents (13.6 percent), followed by retail trade (10.0 percent), and educational services (8.7 percent).

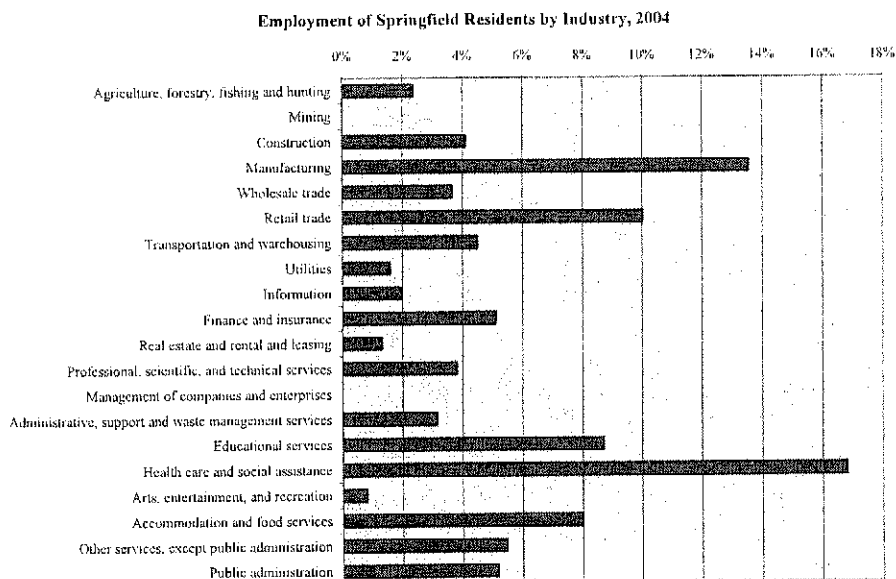
Data from the 2000 Census Transportation Planning Package indicates that most of Springfield's workers are employed within Hampden County, suggesting that the jobs available in the county provide a good benchmark to evaluate the present employment dynamics of Springfield residents. Overall, using the best estimate from the American Community Survey, the percentage of Springfield residents employed in most industry sectors is fairly consistent with the distribution of available jobs. Springfield residents differ substantially from the distribution of jobs only in two of the smallest sectors – the utilities sector and the arts, entertainment, and recreation sector. Springfield residents were more likely to be employed in utilities, which represents 0.8 percent of the jobs in the county, but employs 1.6 percent of Springfield residents, and less likely to be employed in arts, entertainment and recreation, which employs 1.9 percent of county residents, but only 0.8 percent of the Springfield labor force. Springfield residents were also slightly more likely to be employed in the professional, scientific, and technical sector, as well as within public administration.

While the industries in which Springfield residents work tend to be relatively consistent with the distribution of jobs in Hampden County, the primary occupations of Springfield residents differ from those of county residents overall. More Springfield workers are employed in sales and office occupations (25.7 percent) than any other category followed by management, professional and related (24.5 percent), and service (23.5 percent). For county residents, however, management, professional and related occupations are the most common, employing 31.4 percent of the population. Instead of being employed in management and professional positions, Springfield residents are more likely to be employed in service occupations. The percentage of Springfield residents engaged in sales and office occupations is consistent with county averages.

This trend is particularly evident in the health and social assistance sector, a critical employer in the region with regard to size and growth potential. Only 29.0 percent of Springfield residents who work in the sector hold management and professional positions, while 53.1 percent work in service occupations. For Hampden County residents overall, the distribution is 45.3 percent in management and professional occupations and 36.7 percent in service occupations.

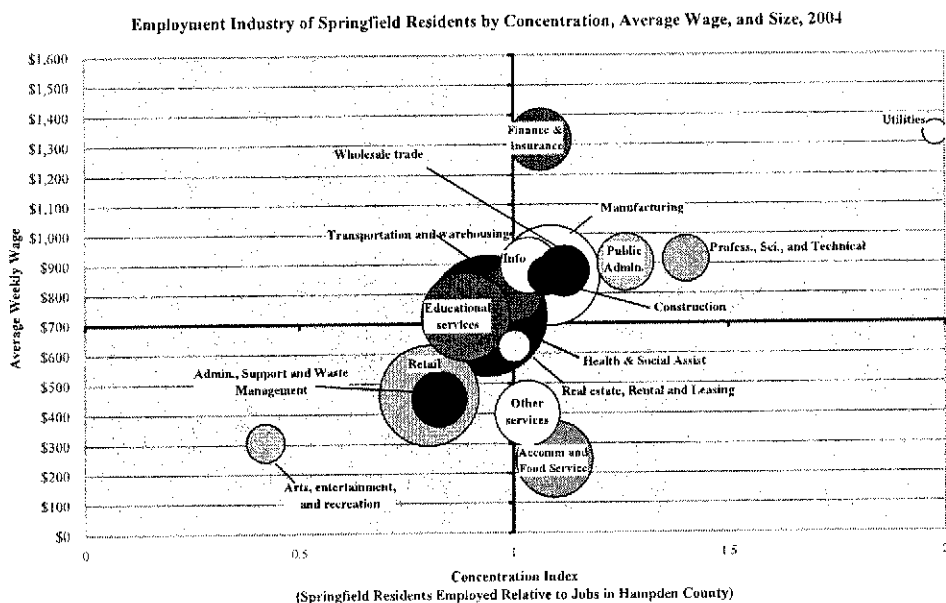
## A Demographic and Economic Analysis of the City of Springfield

**Figure 74**



Source: U.S. Census Bureau, American Community Survey.

**Figure 75**

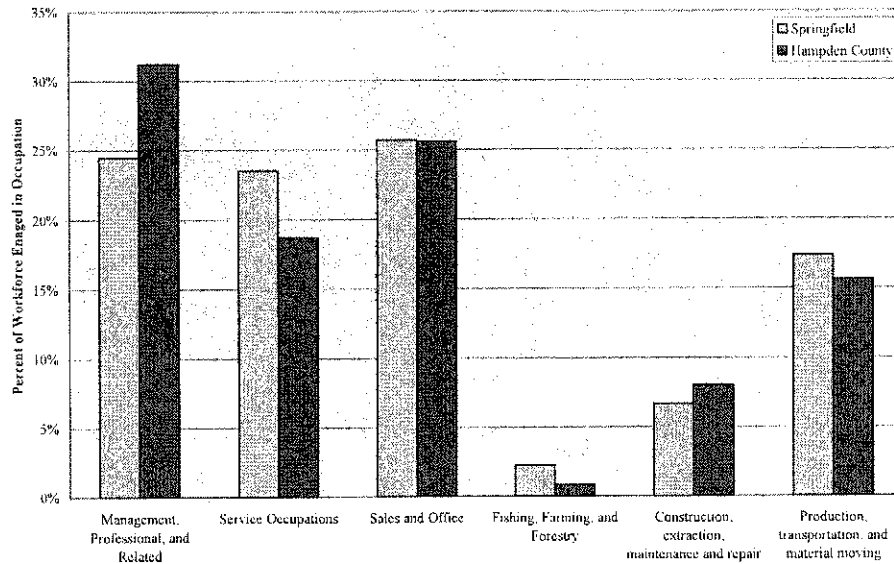


Source: Massachusetts Department of Workforce Development, ES-202 Data Series (Hampden County jobs) and U.S. Census Bureau, American Community Survey (Springfield)

## A Demographic and Economic Analysis of the City of Springfield

**Figure 76**

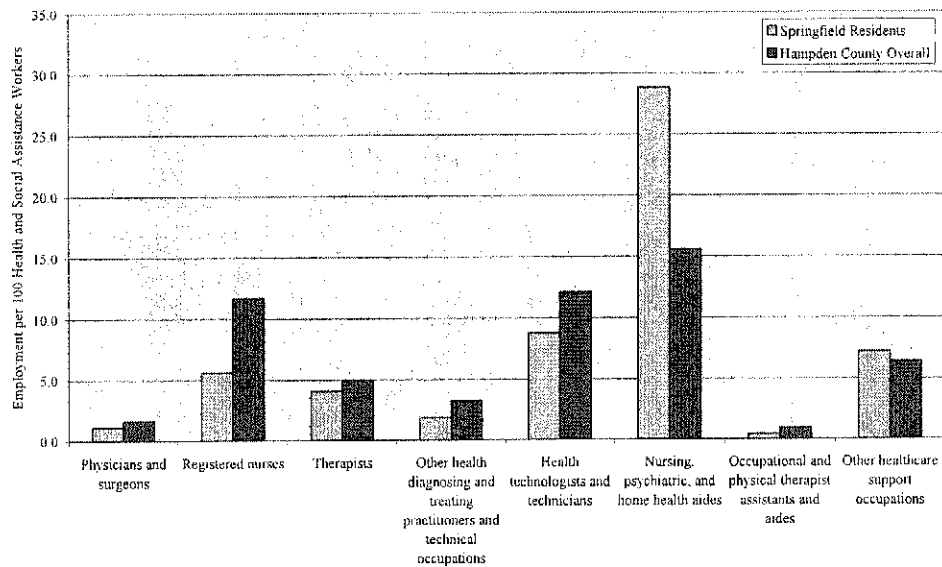
**Occupations of Springfield Residents Relative to Hampden County Overall, 2004**



Source: U.S. Census Bureau, American Community Survey.

**Figure 77**

**Occupations of Health Care Workers by Residence**



Source: U.S. Census Bureau, 2004 American Communities Survey



## A Demographic and Economic Analysis of the City of Springfield

### Occupational Gaps

In order to help communities maintain workforce competitiveness, the U.S. Bureau of Labor Statistics produces projections of occupational employment levels through 2014. It should be noted that these figures represent national averages, as opposed to a projection for a specific community, and as a result, Springfield's future occupational needs may differ somewhat. However, such projections do provide a good benchmark from which to address likely gaps in occupational qualification and the professional development that will be necessary to accommodate changes in the economy over time.

Based on this data, it appears that in order for the Springfield labor market to meet the demands of future employers, residents will need to develop skills in a number of growing and emerging career fields. In particular, management, financial, and professional fields requiring bachelor's and professional degrees will grow in importance over time. As a result, the city will need to increase the percentage of its labor force with a bachelors degree over the next decade to be competitive in this projected labor market. Possible strategies include initiatives aimed at retaining a larger percentage of new graduates from its educational institutions and increasing the percentage of current residents that have access to a four-year degree. In order to meet these challenges public schools will need to improve both student performance on the MCAS test and the percentage of students engaged in college preparatory programs. Efforts to increase the affordability of four-year college attendance for city residents interested in studying finance, management, and nursing in the form of city-wide public and private scholarship initiatives targeted toward Springfield residents intending to enter these fields could be an effective strategy.

Projected employment for registered nurses and healthcare practitioners exceeds the current percent of the Springfield labor force educated for and participating in these careers. On the other hand, projected employment for healthcare support careers in 2014 is lower than the current percentage of Springfield workers engaged in the field. This suggests that professional development within the health care field, helping those already engaged in or training for nursing assistance careers become certified as nurses by obtaining a bachelors or an associates degree in the field, might be necessary to help meet the needs of the future..

Another important finding is that the Bureau of Labor Statistics projects continued declines in manufacturing employment. Because a large percentage of Springfield residents participate in production-related occupations and other related employment in the industry, helping displaced manufacturing workers transition into other types of employment will be a continuing challenge for city officials. Growing fields with predicted labor gaps, such as transportation, construction, and installation, maintenance and repair may serve as potential fields for retraining.

It should be noted, however, that Springfield does appear to have a concentration of employment in metal-working and products manufacturing that may not disappear as the national projections suggest. Consequently, the city may continue to have higher employment in this occupation than the national average, and apprenticeships and vocational programs that help residents prepare for metal-machining jobs should not be discontinued based on these projections.

Finally, office and administrative support occupations will remain large job categories in the future, with roughly the same percentage of employment as is currently observed among

### A Demographic and Economic Analysis of the City of Springfield

Springfield workers. The city should continue to support educational infrastructure and programs aimed at preparing residents for these jobs.

While improving educational and training opportunities for Springfield residents is critical to their economic future, it will also be necessary for the City to take steps to improve quality of life such that people with higher levels of education and higher-wage occupations will choose to reside in the city. There is no question that Springfield needs a better mix of occupations and wage levels among residents, but this should be achieved both by training and retraining existing residents and by attracting new residents.

**Table 15: Projected Employment Gaps Relative to National 2014 Occupational Projections**

	2014 Projected	Current Springfield	Percentage Point Gap
<b>Management, professional, and related</b>	<b>31.4%</b>	<b>24.5%</b>	<b>7.0%</b>
<b>Management, business, and financial</b>	<b>10.4%</b>	<b>6.7%</b>	<b>3.7%</b>
<b>Management</b>	<b>6.2%</b>	<b>4.3%</b>	<b>1.8%</b>
Top executives	1.6%	0.2%	1.4%
Advertising, marketing, promotions, public relations, and sales managers	0.5%	0.1%	0.4%
Financial managers	0.0%	0.3%	-0.3%
Operations specialties managers except financial managers	1.1%	0.4%	0.7%
Other management occupations	3.0%	3.3%	-0.3%
<b>Business and financial operations</b>	<b>4.3%</b>	<b>2.4%</b>	<b>1.8%</b>
Business operations specialists	2.5%	0.9%	1.6%
Financial specialists	1.8%	1.5%	0.3%
Accountants and auditors	0.9%	0.6%	0.3%
<b>Professional and related</b>	<b>21.0%</b>	<b>17.7%</b>	<b>3.3%</b>
<b>Computer and mathematical</b>	<b>2.5%</b>	<b>1.5%</b>	<b>1.0%</b>
Computer specialists	2.4%	1.4%	1.0%
Mathematical science	0.1%	0.1%	-0.1%
<b>Architecture and engineering</b>	<b>1.7%</b>	<b>1.5%</b>	<b>0.2%</b>
Architects, surveyors, and cartographers	0.2%	0.0%	0.2%
Engineers	1.0%	1.3%	-0.3%
Drafters, engineering, and mapping technicians	0.6%	0.3%	0.3%
<b>Life, physical, and social science</b>	<b>0.9%</b>	<b>0.8%</b>	<b>0.1%</b>
Life and physical scientists	0.3%	0.5%	-0.2%
Social scientists and related workers	0.4%	0.1%	0.3%
Life, physical, and social science technicians	0.2%	0.2%	0.0%
<b>Community and social services</b>	<b>1.7%</b>	<b>2.3%</b>	<b>-0.6%</b>
Counselors, social workers, and other community and social service	1.3%	2.0%	-0.7%
Religious workers	0.4%	0.2%	0.2%
<b>Legal</b>	<b>0.9%</b>	<b>1.0%</b>	<b>-0.2%</b>
Lawyers	0.5%	0.5%	0.0%

## A Demographic and Economic Analysis of the City of Springfield

	2014 Projected	Current Springfield	Percentage Point Gap
Judges, magistrates, and other judicial workers	0.0%	0.0%	0.0%
Legal support workers	0.3%	0.5%	-0.2%
<b>Education, training, and library</b>	<b>6.3%</b>	<b>5.5%</b>	<b>0.8%</b>
Postsecondary teachers	1.3%	0.4%	0.9%
Primary, secondary, and special education school teachers	3.1%	4.4%	-1.4%
Preschool, kindergarten, elementary and middle school teachers	2.0%	3.2%	-1.3%
Secondary school teachers	0.8%	0.7%	0.1%
Special education teachers	0.3%	0.5%	-0.2%
Librarians, curators, and archivists	0.2%	0.1%	0.1%
Other teachers and instructors, education, training, and library	1.8%	0.7%	1.1%
<b>Arts, design, entertainment, sports, and media</b>	<b>1.8%</b>	<b>1.4%</b>	<b>0.4%</b>
Art and design workers	0.5%	0.4%	0.1%
Entertainers and performers, sports, and related workers	0.5%	0.2%	0.4%
Media and communication equipment workers	0.7%	0.8%	-0.1%
<b>Healthcare practitioner and technical</b>	<b>5.2%</b>	<b>3.6%</b>	<b>1.6%</b>
Health diagnosing and treating practitioners and other technical	3.2%	2.1%	1.1%
Physicians and surgeons	0.4%	0.2%	0.2%
Registered nurses	1.9%	0.9%	0.9%
Therapists	0.4%	0.7%	-0.3%
Other health diagnosing and treating practitioners and technical	0.5%	0.3%	0.2%
Health technologists and technicians	1.9%	1.5%	0.4%
<b>Service</b>	<b>20.0%</b>	<b>23.5%</b>	<b>-3.5%</b>
<b>Healthcare support</b>	<b>2.8%</b>	<b>6.1%</b>	<b>-3.3%</b>
Nursing, psychiatric, and home health aides	1.7%	4.8%	-3.1%
Occupational and physical therapist assistants and aides	0.1%	0.1%	0.0%
Other healthcare support	1.0%	1.2%	-0.2%
<b>Protective service</b>	<b>2.2%</b>	<b>2.9%</b>	<b>-0.7%</b>
Fire fighting and prevention workers including supervisors	0.4%	0.3%	0.1%
Law enforcement workers including supervisors	0.8%	1.6%	-0.8%
Other protective service workers including supervisors	1.0%	0.9%	0.0%
<b>Food preparation and serving related</b>	<b>7.6%</b>	<b>5.5%</b>	<b>2.1%</b>
Cooks and food preparation workers	2.1%	2.6%	-0.5%
Waiters and waitresses	1.6%	0.4%	1.2%
Food and beverage serving workers except waiters/waitresses	2.3%	0.7%	1.6%
Other food preparation and serving workers including supervisors	1.6%	1.8%	-0.3%
<b>Building and grounds cleaning and maintenance</b>	<b>4.0%</b>	<b>3.5%</b>	<b>0.5%</b>
Building and grounds cleaning and maint.	4.0%	3.5%	0.5%

## A Demographic and Economic Analysis of the City of Springfield

	2014 Projected	Current Springfield	Percentage Point Gap
<b>Personal care and service</b>	<b>3.5%</b>	<b>5.6%</b>	<b>-2.1%</b>
Personal appearance workers	0.6%	0.9%	-0.4%
Transportation, tourism, and lodging attendants	0.2%	0.0%	0.2%
Child care workers	0.9%	2.8%	-1.9%
Supervisors and other personal care and service workers	0.0%	1.9%	-1.9%
<b>Sales and office</b>	<b>25.6%</b>	<b>25.7%</b>	<b>-0.1%</b>
<b>Sales and related</b>	<b>10.2%</b>	<b>11.0%</b>	<b>-0.8%</b>
Cashiers	2.2%	3.8%	-1.6%
Retail sales workers except cashiers	3.5%	2.0%	1.5%
Sales representatives, services, wholesale and manufacturing	2.2%	1.5%	0.6%
Other sales and related workers including supervisors	2.3%	3.8%	-1.4%
<b>Office and administrative support</b>	<b>15.4%</b>	<b>14.6%</b>	<b>0.7%</b>
Communications equipment operators	0.1%	0.0%	0.1%
Financial clerks except bookkeeping, accounting, and auditing clerks	1.2%	0.7%	0.5%
Bookkeeping, accounting, and auditing clerks	1.3%	1.4%	-0.1%
Information and record clerks except customer service representatives	2.2%	1.7%	0.5%
Customer service representatives	1.5%	1.9%	-0.4%
Material recording, scheduling, dispatching, and distributing workers	2.3%	2.6%	-0.3%
Secretaries and administrative assistants	2.7%	2.2%	0.5%
Other office and administrative support workers including supervisors	4.0%	4.0%	0.0%
<b>Farming, fishing, and forestry</b>	<b>0.6%</b>	<b>2.3%</b>	<b>-1.7%</b>
Agricultural workers including supervisors	0.5%	2.3%	-1.7%
Fishing and hunting, and forest and logging workers	0.0%	0.0%	0.0%
<b>Construction, extraction, maintenance, and repair</b>	<b>9.2%</b>	<b>6.7%</b>	<b>-6.6%</b>
<b>Construction and extraction</b>	<b>5.3%</b>	<b>3.5%</b>	<b>1.8%</b>
Supervisors, construction and extraction workers	0.5%	0.3%	0.2%
Carpenters	0.9%	0.5%	0.5%
Construction laborers	0.6%	0.7%	-0.1%
Electricians	0.4%	1.1%	-0.6%
Painters and paperhangers	0.3%	0.3%	0.0%
Pipelayers, plumbers, pipefitters, and steamfitters	0.4%	0.0%	0.4%
Other construction trades workers	1.3%	0.4%	0.9%
Other construction workers and helpers	0.6%	0.3%	0.4%
Extraction workers	0.1%	0.0%	0.1%
<b>Installation, maintenance, and repair</b>	<b>3.9%</b>	<b>3.2%</b>	<b>0.7%</b>
Vehicle and mobile equipment mechanics, installers, and repairers	1.2%	1.2%	0.0%
Supervisors and other electrical equipment mechanics	2.7%	1.9%	0.7%

## A Demographic and Economic Analysis of the City of Springfield

	2014 Projected	Current Springfield	Percentage Point Gap
<b>Production, transportation, and material moving</b>	<b>13.2%</b>	<b>17.4%</b>	<b>-4.2%</b>
<b>Production</b>	<b>6.4%</b>	<b>12.0%</b>	<b>-5.6%</b>
Assemblers and fabricators	1.3%	1.2%	0.1%
Food processing workers	0.5%	0.4%	0.1%
Metal workers and plastic workers	1.3%	3.9%	-2.6%
Printing workers	0.2%	0.6%	-0.3%
Textile, apparel, and furnishings workers	0.5%	0.9%	-0.4%
Woodworkers	0.2%	0.0%	0.2%
Plant and system operators	0.2%	0.1%	0.1%
Other production including supervisors	2.2%	4.9%	-2.6%
<b>Transportation and material moving</b>	<b>6.8%</b>	<b>5.4%</b>	<b>1.4%</b>
Supervisors, transportation and material moving workers	0.3%	0.2%	0.0%
Air transportation workers	0.1%	0.2%	-0.1%
Rail and water transportation workers	0.1%	0.0%	0.1%
Bus drivers	0.5%	0.6%	-0.2%
Driver/sales workers and truck drivers	2.2%	1.6%	0.6%
Motor vehicle operators except bus and truck drivers	0.2%	0.1%	0.2%
Other transportation workers	0.2%	0.1%	0.1%
Material moving workers	3.2%	2.6%	0.6%
Laborers and material movers, hand	2.5%	1.9%	0.6%
Material moving workers except laborers and material movers, hand	0.7%	0.7%	0.0%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>0.0%</b>

Source: U.S. Bureau of Labor Statistics, 2014 Occupational Employment Projections

Source: U.S. Bureau of Labor Statistics, 2014 Occupational Employment Projections; U.S. Census Bureau, American Community Survey.

## A Demographic and Economic Analysis of the City of Springfield

### Analyzing Business Opportunities

#### Industry Cluster Analysis

##### *Concentrations*

Goods and services produced in any community can be for one of two purposes: local consumption or export for external consumption. Such exportation can occur in the traditional sense, through the transportation of physical goods or expertise to other locales or it can occur when residents of other communities travel into a locale to consume services on premises, as is the case with tourism, entertainment, and services in which the purchaser needs to be physically present in order to consume the service. One way to assess whether local production is in support of local consumption or is a primary export is by evaluating employment in the area relative to a base area using location quotients, a measure of concentration of industries in a geographic area. Location quotients greater than one suggest that the industry is a net exporter, producing goods and services in excess of what is necessary for purely local consumption, and bringing money into the community. Location quotients lower than one suggest the converse, that the industry is a net import, in which residents obtain goods and services from other communities. Quotients at or around one indicate that the industry is neither an export nor import industry, but rather serves local need, as is often the case with grocery and convenience stores.

Just as Springfield is a major employer for the Pioneer Valley region, it is also a major urban center, providing goods and services for residents of other communities, both on its borders and elsewhere throughout the nation and the world. Based on their location quotients, the industries that appear to be “export industries” in Springfield tend to be in the service sector, particularly healthcare and social assistance, educational services, finance and insurance, management of companies and enterprises, and other services. Interestingly, the two largest sectors, health care and social assistance and educational services, are traditionally services that require a physical presence at the time of service delivery, although new medical technology and the increasing use of distance learning have changed this somewhat in recent years. Despite the recent changes, many of the activities that bring money into the city are those that require residents of surrounding communities to actually enter the city. As a result, safety, positive public perceptions, and aesthetics are important to their continued growth.

The city has low concentrations of employment in construction, arts, entertainment and recreation, professional and technical services, administrative and waste services, wholesale trade, and manufacturing.

While high location quotients in some categories necessitates lower location quotients in others, industry sectors in which the city has dramatically lower percentages of employment relative to the county overall could suggest growth opportunities. Retail trade, manufacturing, and arts, entertainment, and recreation are three sectors in which Hampden County has slight concentrations of employment, yet Springfield employment levels are quite low.

Springfield’s employment in retail trade is 0.76, suggesting that those who live and work in the city do not tend to shop there. While stores that sell staple goods, such as grocery and health and personal care stores, have employment in proportion with overall employment levels, more specialized categories of retail have disproportionately low levels of employment. Direct selling establishments, or non-store retailers, such as newspaper delivery, heating oil delivery,

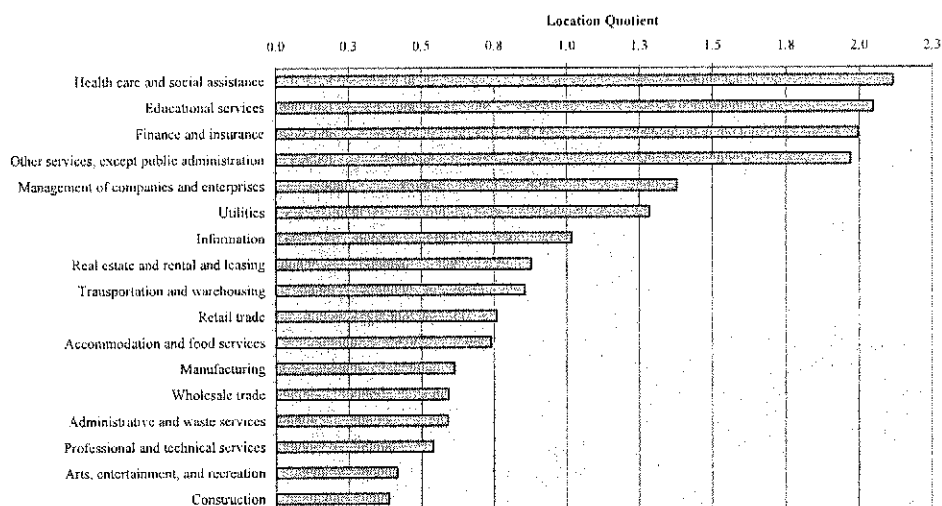


### A Demographic and Economic Analysis of the City of Springfield

coffee break services, and door-to-door sales, appear to be doing well in the city. There is significant room for growth in the category of specialty stores, such as clothing stores, shoe stores, bookstores, electronic stores, and home furnishing stores. These stores, however, are not typically destination stores in and of themselves and require retail districts or mall settings in order to prosper.

**Figure 78**

**Concentration of Industry Sectors in Springfield, Massachusetts**  
(Base: All National Employment in Privately Owned Organizations)



Source: Massachusetts Department of Workforce Training and Development, 2004 ES-202 Data Series (Springfield), and U.S. Bureau of Labor Statistics, 2004 Quarterly Census of Employment and Wages (national)

**Table 16: Concentration of Industry Sectors and Subsectors in Springfield compared to the Country**

	Location Quotient	Employment
<b>Agriculture, forestry, fishing and hunting</b>	ND	ND
Agriculture, forestry, fishing and hunting	ND	ND
<b>Mining</b>	ND	ND
Mining	ND	ND
<b>Utilities</b>	1.28	434
Utilities	1.28	434
<b>Construction</b>	0.39	1,600
Construction of buildings	0.36	350
Heavy and civil engineering construction	0.54	289
Specialty trade contractors	0.36	960
<b>Manufacturing</b>	0.61	5,233
Printing and related support activities	0.45	178
Petroleum and coal products manufacturing	-	-
Chemical manufacturing	0.25	130
Furniture and related product manufacturing	0.24	81
Miscellaneous manufacturing	0.79	310



## A Demographic and Economic Analysis of the City of Springfield

	Location Quotient	Employment
<b>Wholesale trade</b>	<b>0.59</b>	<b>2,005</b>
Merchant wholesalers, durable goods	0.43	767
Merchant wholesalers, nondurable goods	0.88	1,052
Electronic markets and agents and brokers	0.44	186
<b>Retail trade</b>	<b>0.76</b>	<b>6,849</b>
Motor vehicle and parts dealers	0.57	648
Furniture and home furnishings stores	0.61	205
Electronics and appliance stores	0.62	195
Building material and garden supply stores	0.87	647
Food and beverage stores	1.01	1,710
Health and personal care stores	1.04	584
Gasoline stations	0.73	384
Clothing and clothing accessories stores	0.73	600
Sporting goods, hobby, book and music	0.68	264
General merchandise stores	0.64	1,101
Miscellaneous store retailers	0.67	369
Nonstore retailers	0.56	143
<b>Transportation and warehousing</b>	<b>0.86</b>	<b>2,058</b>
Air transportation	-	-
Truck transportation	0.97	782
Transit and ground passenger transportation	4.50	1,021
Support activities for transportation	0.32	103
Couriers and messengers	0.15	51
Warehousing and storage	0.00	-
<b>Information</b>	<b>1.02</b>	<b>1,892</b>
Publishing industries, except Internet	-	-
Motion picture and sound recording	0.41	93
Broadcasting, except Internet	1.19	231
Telecommunications	1.13	695
<b>Finance and insurance</b>	<b>2.00</b>	<b>6,959</b>
Credit intermediation and related activities	0.58	971
Securities, commodity contracts, investments	1.69	776
Insurance carriers and related activities	4.08	5,200
Funds, trusts, and other financial vehicles	0.23	12
<b>Real estate and rental and leasing</b>	<b>0.88</b>	<b>1,094</b>
Real estate	0.80	674
Rental and leasing services	1.09	420
<b>Professional and technical services</b>	<b>0.54</b>	<b>2,184</b>
Professional and technical services	0.54	2,184
<b>Management of companies and enterprises</b>	<b>1.38</b>	<b>1,402</b>
Management of companies and enterprises	1.38	1,402
<b>Administrative and waste services</b>	<b>0.59</b>	<b>2,768</b>
Administrative and support services	0.60	2,681
Waste management and remediation	0.45	87
<b>Educational services</b>	<b>2.05</b>	<b>2,553</b>
Educational services	2.05	2,553
<b>Health care and social assistance</b>	<b>2.12</b>	<b>17,761</b>
Ambulatory health care services	1.87	5,549
Hospitals	3.08	7,840
Nursing and residential care facilities	1.30	2,184
Social assistance	1.81	2,188

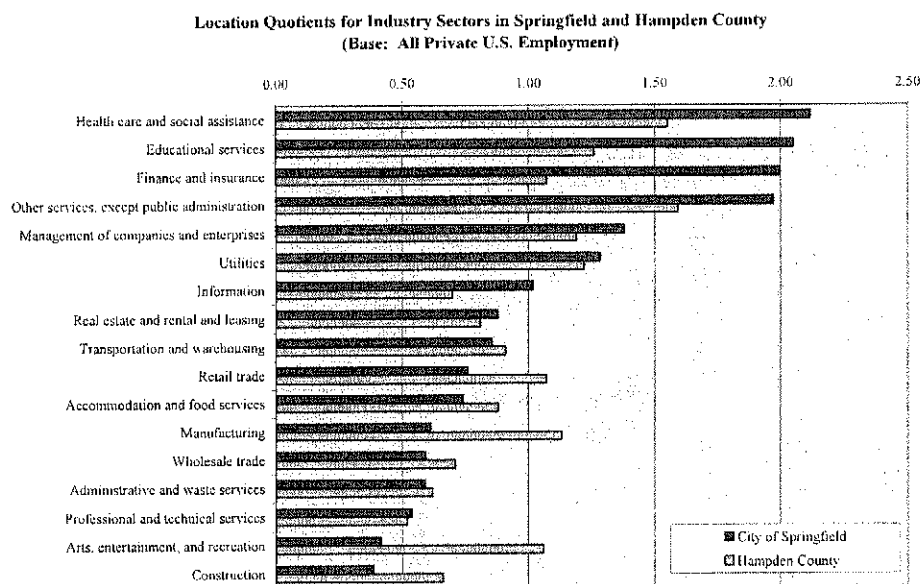
## A Demographic and Economic Analysis of the City of Springfield

	Location Quotient	Employment
<b>Arts, entertainment, and recreation</b>	<b>0.42</b>	<b>462</b>
Amusements, gambling, and recreation	0.18	145
<b>Accommodation and food services</b>	<b>0.74</b>	<b>4,713</b>
Accommodation	0.51	546
Food services and drinking places	0.79	4,167
<b>Other services, except public administration</b>	<b>1.97</b>	<b>5,064</b>
Repair and maintenance	0.85	620
Personal and laundry services	1.28	969
Membership associations and orgs.	1.48	1,150
Private households	7.71	2,325

Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages (Springfield); U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (national).

ND: subsectors for which the MA Department of Workforce Development did not release data or for which data was not available.

Figure 79



Source: Massachusetts Department of Workforce Training and Development, 2004 ES-202 Data (City of Springfield and Hampden County) and U.S. Bureau of Labor Statistics, 2004 Quarterly Census of Employment and Wages (national)

Table 17: Retail Sector Industry Group Quotients and Employment in Springfield compared to Country

Industry Group	Location Quotient	Employment in Industry
Beer, Wine, and Liquor Stores	3.018	247
Direct Selling Establishments	1.373	123
Health and Personal Care Stores	1.036	584
Florists	1.023	65
Grocery Stores	0.976	1,427
Building Material and Supplies Dealers	0.934	607

## A Demographic and Economic Analysis of the City of Springfield

Industry Group	Location Quotient	Employment in Industry
Department Stores	0.899	870
Furniture Stores	0.863	151
Jewelry, Luggage & Leather Goods Stores	0.858	87
Auto Parts, Accessories, and Tire Stores	0.848	246
Sporting Goods/Musical Instrument Stores	0.757	199
Gasoline Stations	0.734	384
Clothing Stores	0.718	439
Shoe Stores	0.694	74
Office Supply, Stationery & Gift Stores	0.668	162
Electronics and Appliance Stores	0.623	195
Other Miscellaneous Store Retailers	0.550	98
Other Motor Vehicle Dealers	0.543	52
Book, Periodical, and Music Stores	0.523	65
Automobile Dealers	0.463	349
Home Furnishings Stores	0.331	54
Other General Merchandise Stores	0.311	231
Specialty Food Stores	0.247	36

Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages (Springfield); U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (national).

*Cluster analysis*

Industry concentrations can also be organized into clusters, or groups of interrelated businesses that are part of the supply chain of a larger field. As Joseph Cortright of the Brookings Institute explains, a cluster is “a group of firms and related economic actors and institutions located near one another that draw productive advantage from their mutual proximity and connections.”<sup>4</sup> Harvard Business School Professor Michael Porter asserts that the existence of industry clusters can transform the competitive landscape, allowing for increased productivity, fostering innovation, and creating an atmosphere for new business growth in and around the cluster.<sup>5</sup> Through the development of a specialized workforce, specialized suppliers, and local expertise, the existence of an industry cluster suggests that firms within the field may be more successful within a geographic cluster than they might otherwise.

An obvious example of a cluster in Springfield is the health field. The city is home to two major hospitals, Baystate Medical Center and Mercy Medical Center, that provide services to residents of Springfield and surrounding communities. However, it also has high concentrations of employment in a number of corresponding industries including physicians’ offices, diagnostic laboratories, and home health care. This geographic concentration allows individual firms engaged in the provision of health care services to share a workforce with expertise in the field, utilize shared facilities, and be close to specialized suppliers and customers. The health cluster is particularly strong in the mental health services field, evident in Springfield’s high concentration of residential mental health facilities and outpatient treatment centers. Major medical is also a strong health sub-specialization in the region, including

<sup>4</sup> Cortright, Joseph. (2006). Making Sense of Clusters: Regional Competitiveness and Economic Development. Brookings Institution. p.1.

<sup>5</sup> Porter, Michael E. (1998). Clusters and the new economics of competition. *Harvard Business Review*. (Vol. 76:6).

### A Demographic and Economic Analysis of the City of Springfield

outpatient care (which includes family planning services, freestanding surgical centers, mental health services and dialysis clinics); emergency services, and diagnostics.

Another existing cluster in Springfield appears to be in the field of metal-working. While the city has a low concentration of general manufacturing relative to the total U.S. economy, it does have a disproportionately high number of workers engaged in and related to the production of metal products. The fabricated metal product manufacturing sub-sector has a location quotient of 2.1, one of the top ten sub-sectors in the city. Similarly, the coating, engraving and heat-treating metal industry has a quotient of 2.7, and the metal-working machinery manufacturing and the industrial machinery manufacturing industries have location quotients of 3.1 and 1.9, respectively. While employment in each individual industry may appear low, between 138 and 373 employees, the total number of individuals that may be employed by this larger cluster of industries is nearly 750.

An additional cluster is found within the educational services sector, particularly colleges and universities. The prevalence of the educational services sector in Springfield appears to be driven primarily by the city's four institutions of higher learning, Springfield Technical Community College, Springfield College, American International College, and Western New England College, which account for 84 percent of non-municipal employment in the sector. In part, this cluster is likely a structural component of other high-concentration clusters in healthcare and finance; university programs in these fields support the development of the workforce necessary to sustain the clusters. For example, Springfield Technical Community College awards a large percentage of its degrees and certificates in health fields, and recently responded to an emerging need for nurses by developing a nursing program. Springfield College also supports the health cluster, through its program in physical therapy and related health professions. Similarly, business and graduate continuing education programs at American International College and Western New England College help to support the cluster activity in finance, insurance, and securities.

**Table 18: Health Care Field Location Quotients and Employment in Springfield compared to Country**

	<b>Location Quotient</b>	<b>Employment in Industry</b>
<b>SECTOR-LEVEL:</b>		
Health care and social assistance	2.1155	17,761
<b>SUBSECTOR-LEVEL:</b>		
Ambulatory health care services	1.8748	5,549
Hospitals	3.0798	7,840
Nursing and residential care facilities	1.2965	2,184
<b>INDUSTRY GROUP LEVEL:</b>		
Outpatient Care Centers	4.292	1,144
Emergency and Other Relief Services	3.945	305
Residential Mental Health Facilities	3.683	1,081
Medical and Diagnostic Laboratories	3.098	350
General Medical and Surgical Hospitals	2.989	7,178
Other Residential Care Facilities	2.715	268
Home Health Care Services	2.033	939
Offices of Other Health Practitioners	1.829	575

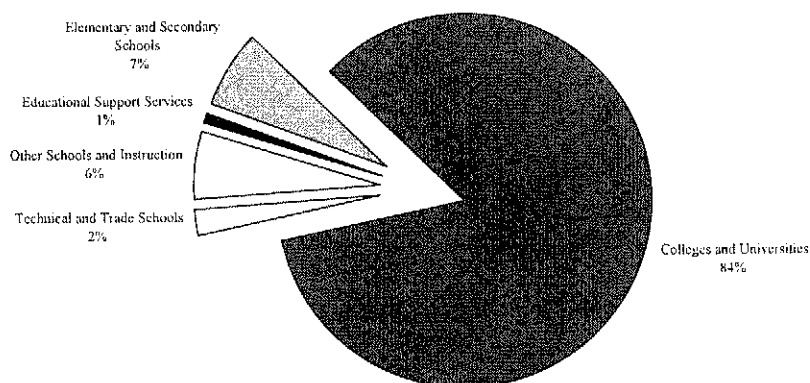
### A Demographic and Economic Analysis of the City of Springfield

<b>Offices of Physicians</b>	1,760	2,165
<b>Death Care Services</b>	1,437	118

Source: MA Department of Workforce Development, Quarterly Census of Employment and Wages (Springfield); U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (national).

**Figure 80**

Springfield Employment in Educational Services Sector, by Industry



Source: Massachusetts Department of Workforce Training and Development, 2004 US-202 Data Series, All Private Employment

#### *Industry concentration trends*

When communities have clusters of employment, their economic health may be dependent on national trends that effect the cluster. Communities with clusters in industries that are growing will tend to experience business and employment growth, while communities with clusters that are declining nation-wide may experience economic downturns. The largest sector in Springfield, the health care and social assistance sector, has been growing modestly, both nationally and regionally, since 2001. Another powerful industry concentration in Springfield, educational services, is also a growing sector, suggesting that this cluster will become stronger in coming years. However, finance and insurance, a relatively large sector for Springfield, and the industry with the highest wages, has experienced declines in employment both in Springfield and in Hampden County in general.

The arts, entertainment, and recreation sector, a modest sector for employment in Hampden County and a particularly small sector for Springfield, has experienced significant employment growth in recent years, suggesting that this may be an emerging industry for Hampden County. This growth, coupled with the fact that Springfield's share of employment in this industry is vastly out of proportion with that of Hampden County overall, suggests that there may be growth potential for this industry. However, Springfield's current low share of economic activity in the sector suggests that the city is not currently well-positioned to take advantage of this trend absent targeted economic development incentives. Decreasing crime in the city and

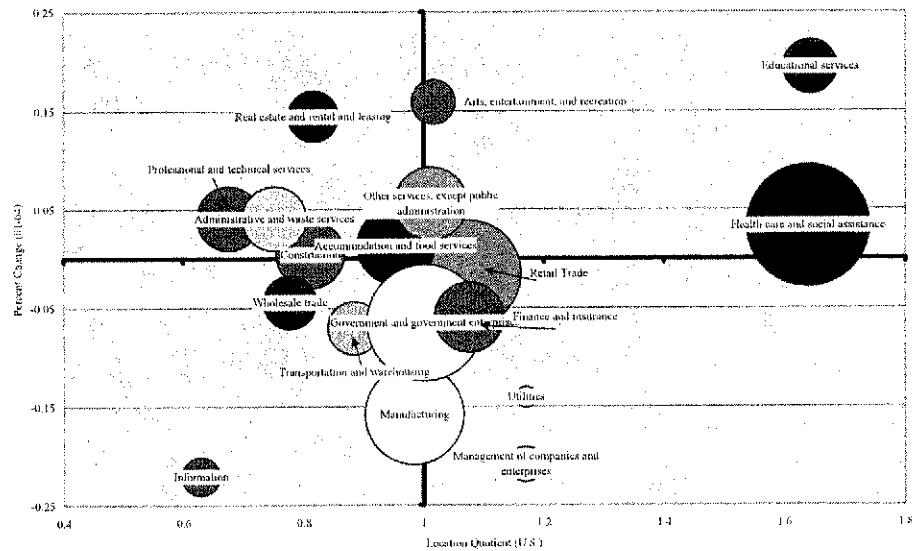


### A Demographic and Economic Analysis of the City of Springfield

fostering a positive public perception of the area as a safe and fun destination will be critical in helping Springfield experience growth within this emerging regional cluster.

**Figure 81**

**Industries in Hampden County by Concentration, Growth, and Size, 2004**



Source: Massachusetts Department of Workforce Training and Development, ES-202 Data Series (Springfield) and U.S. Bureau of Labor Statistics 2004 Quarterly Census of Employment and Wages (national base data for location quotients)

# EXHIBIT B

## (Part 4)



## A Demographic and Economic Analysis of the City of Springfield

### Business Costs

#### *Water and sewer costs*

According to the Springfield Water and Sewer Commission, from July 2006 to June 2007, the city charges \$1.60 per 100 cubic feet of water to commercial enterprises and \$0.80 per 100 cubic feet for industrial clients. These rates represent an increase of 8.1 percent for commercial and 5.3 percent for industrial, relative to the rate in fiscal year 2006. The Commission also assesses monthly service charges to customers depending on the size of the meter that they require and fire service pipes. Interestingly, one manufacturer interviewed by city economic development officials noted that the city's water quality was one of the reasons that the company had initially located in the city.

In addition to the quality of the city's water supply, the rates for water are significantly lower than other cities in Massachusetts. Boston's rate per 100 cubic feet is more than double that of Springfield, while Worcester's rate is more than one and a half times that of Springfield. Springfield's high quality and low cost water supply should be a selling point to potential businesses.

**Table 19: Springfield Water Rates per 100 Cubic Feet, FY2007**

Class of Customer	Springfield	Boston	Worcester
Residential	\$1.60	\$3.24	\$2.61
Commercial	\$1.60	\$3.24	\$2.61
Industrial	\$0.80	\$3.24	\$2.61
Municipal	\$0.80	\$3.24	\$2.61

Source: Springfield Water and Sewer Commission; City of Worcester; Boston Water and Sewer Commission.

**Table 20: Springfield Water and Sewer Monthly Charges, FY2007**

Monthly Sewer Service Charge		
Pipe Size	Monthly Charge	
1/2 inch and 5/8 inch	\$2.50	
3/4 inch	\$2.67	
1 inch	\$3.17	
1 1/4 inch	\$3.83	
1 1/2 inch	\$3.85	
2 inches	\$5.67	
3 inches	\$19.17	
4 inches	\$24.17	
6 inches	\$35.83	
8 inches	\$49.17	
10 inches	\$59.17	
12 inches	\$84.17	
Monthly Fire Service Pipe Charge		
Pipe Size	Springfield	Boston
2 inch	\$3.33	\$28.21
4 inch	\$20.33	\$28.21
6 inch	\$58.67	\$64.17
8 inch	\$125.00	\$114.08
10 inch	\$224.67	\$114.08

Source: Springfield Water and Sewer Commission, Boston Water and Sewer Commission.

## A Demographic and Economic Analysis of the City of Springfield

### *Electric costs*

Like water, rates for electricity distribution are lower in Springfield than in other cities in the Commonwealth. Comparing electricity distribution costs in Springfield (through Western Massachusetts Electric Company) with those of Boston (NStar), we find that electricity is 13.2 percent less costly for residents of Springfield than for residents of Boston. Among businesses, commercial enterprises will find electricity 11.7 percent cheaper in Springfield than in Boston. For industrial businesses, the difference is not as significant, with industrial businesses in Springfield saving less than one-tenth of a cent for every kilowatt hour of electricity when compared to Boston-based industrial businesses.

**Table 21: Electric Rates for Default Service in Cents per KWh, June 2006**

	Springfield (WMECO)	Boston (NStar)	Percentage Difference
Residential	9.354	10.587	13.2%
Commercial	9.543	10.66	11.7%
Industrial	9.602	9.681	0.8%

Source: Massachusetts Department of Telecommunications and Energy, Default Service Rates.

### *Technology infrastructure*

Springfield has particularly strong telecommunications assets that can be used to attract and support technology-intensive and transaction-oriented businesses. Located at an intersection of the national and international fiber optic network, the city serves as a primary telecommunications access hub for the Northeast. Because distance from such infrastructure is a determinant of both connection speed and cost, Springfield-area businesses enjoy better interconnectivity and lower connection costs than those located in other industrial centers. In addition, several large telephone service providers have switching centers in Springfield. The Springfield Technical Community College Technology Park notes that businesses in Springfield can purchase connection to regional providers on a per-foot basis between the business and the carrier, while such connections are typically sold on a per-mile basis in other cities. The 2004 Valley Vision Report notes that these assets would be particularly well suited to businesses and institutions that rely heavily on back office or toll-free telephone marketing operations, such as banks, brokerage firms, insurance companies, mail-order companies, and related software and hardware firms.

Another unique part of Springfield's technology infrastructure is the Springfield Technical Community College Technology Park, a complex that leases industrial space to technology-based and light manufacturing firms. The Park itself is partnered with Springfield Technical Community College, and the college's faculty and staff support the venture by offering business expertise and up-to-date technical assistance. It has a state-of-the-art fiber optic telecommunications infrastructure for voice lines and high-speed data and Internet access, and as a result, a number of the telephone switching centers in the city are located at the Technology Park. Marketing material boasts that it is "one of the least expensive locations for a business to send and receive high-speed data transmissions in New England, if not the East Coast." The park is located close to Springfield's central business district, and is proximate to Interstates 91, 291, and 90 (the Massachusetts Turnpike).

One of the high-technology businesses at the technology park, and another source of high-technology services available for local businesses, is the Deliso Videoconferencing Center,

### A Demographic and Economic Analysis of the City of Springfield

a public video-conferencing service provider. The facility offers fee-for-service videoconferencing, audio conferencing, teleconferencing, multimedia, wireless computer lab, and media production services for individuals and business in the Springfield area.

#### *Corporate taxes*

The city of Springfield property tax rate for real estate classified as commercial or industrial is \$33.02 per \$1,000 of assessed value, the second highest rate in the state after Holyoke. While the city's tax rate is higher than other communities, actual tax levies are determined by not only the tax rate, but also the assessed value of the property, and evidence suggests that the market value of real estate in Springfield is lower than in other communities. According to the Massachusetts Department of Revenue, the average industrial parcel in Springfield is assessed at \$546,238 and the average commercial parcel at \$405,623; therefore, the average property tax bill for industrial and commercial businesses in the city is \$18,037 and \$13,394, respectively.

When compared with other industrial cities in Massachusetts, it appears that Springfield's average tax levy for industrial property is on the high end, while the average tax levy for commercial property tends to be low. It should be noted that this comparison does not control for parcel size, and as a result, differences in the assessed values and tax levies could be the result of systematic differences in the size of parcels in the comparison cities. As a result, competitiveness of the city's property tax rates could be a source of future research for the city.

In addition to the local property tax, corporations in Springfield are subject to a state-wide corporate excise tax. Massachusetts levies a single corporate tax on most corporations doing business within its borders; however, cities and towns do not levy additional corporate excise taxes in excess of the state levy. According to the Massachusetts Department of Revenue, activities that constitute doing business, and thus, subject an organization to the corporate excise tax include: maintenance of a place of business; employment of labor; owning or using capital, plant or other property; renting, leasing, buying, selling, or procuring services or property; execution of contracts; or installation, assembly, or servicing of products by its employees.<sup>6</sup> Businesses that only solicit orders which are filled outside the state are not covered under the state's taxation requirements. The tax is on net income and assets and is calculated as follows:

The income measure is calculated at a rate of 9.5 percent of the corporation's taxable net income apportioned to the Commonwealth. The property/net worth measure is imposed at a rate of \$2.60 per \$1,000 of either a corporation's taxable Massachusetts tangible property or its taxable net worth.

A corporation's total excise is the combination of the property/net worth and net income measures, or the minimum corporate excise, whichever is greater. For taxable years ending on or after December 31, 1988, the minimum corporate excise is \$456.<sup>7</sup>

Non-profit corporations that are exempt from federal taxation are also typically exempt from the Massachusetts corporate income tax, as are agricultural, horticultural, and cooperative

<sup>6</sup> Massachusetts Department of Revenue. *Guide to Massachusetts Tax and Employer Obligations*. Available at: <http://www.dor.state.ma.us/business/taxguide/corpexcise.htm>.

<sup>7</sup> Massachusetts Department of Revenue. *Guide to Massachusetts Tax and Employer Obligations*.

### A Demographic and Economic Analysis of the City of Springfield

organizations formally organized under Massachusetts General Laws, Chapter 157, Section 10. Banking and financial institutions, insurance companies, safe deposit companies, public utility corporations, and corporate trusts are also not subject to the corporate excise tax, but are subject to other state tax levies.

**Table 22: Average Valuation, Tax Rate, and Tax Levy on Parcels by Class for Select Massachusetts Industrial Cities, 2006**

	Average Assessed Value	Tax Rate (per \$1,000)	Average Tax Levy
<b>Industrial Property</b>			
Holyoke	\$ 374,181	\$ 37.13	\$ 13,893
Lowell	\$ 705,471	\$ 19.89	\$ 14,032
Springfield	\$ 546,238	\$ 33.02	\$ 18,037
Worcester	\$ 651,063	\$ 25.20	\$ 16,407
<b>Commercial Property</b>			
Holyoke	\$ 619,703	\$ 37.13	\$ 23,010
Lowell	\$ 370,527	\$ 19.89	\$ 7,370
Springfield	\$ 405,623	\$ 33.02	\$ 13,394
Worcester	\$ 606,924	\$ 25.20	\$ 15,294

Source: MA Department of Revenue.

#### *Available incentives*

Springfield is part of an Economic Target Area identified by the state of Massachusetts, a designation that allows municipal officials to offer economic incentives to help create and retain local jobs. One such incentive is tax increment financing (TIF), which enables cities and towns to offer certain property tax exemptions subsidizing private development. When using TIF financing, city officials work with current and prospective business owners to offer property tax exemptions on a percentage of the value added as a result construction and improvement activities; such exemptions remain in effect for between five and twenty years, depending on the agreement between the city and the business' owners. Cities and towns may assess betterment fees to help finance infrastructure investments necessary to support the new development. According to the Massachusetts Department of Economic Development, between July 2002 and June 2004, Springfield had used TIF financing for two projects that invested a total of \$1.9 million into two city businesses and retained 27 jobs. The larger project, with an investment of \$1.4 million, was granted a tax exemption on a portion of the new investment for 20 years; the smaller project, which invested \$500,000, was granted a five-year exemption.

Training grants are another source of economic incentives used to promote business growth and job creation in the city. The largest category of grants, general program grants, subsidize employer training activities, improving worker skills and increasing productivity. Grants are awarded in amounts between \$2,000 and \$250,000; employers must match grant funds 100 percent. According to the Hampden County Regional Employment Board, between 1998 and 2005, nearly \$3.3 million dollars was awarded by the Massachusetts Department of Workforce Development to Springfield businesses through this program, 32.8 percent of the total of \$10.5 million awarded in the Hampden County Workforce Investment Area.

## A Demographic and Economic Analysis of the City of Springfield

### *Transportation infrastructure*

According to the Massachusetts Department of Revenue, 497.9 miles of roadways traverse the City of Springfield. Of these, 102.2 miles are principal arterials, or majors highways that serve corridor movements and have trip lengths and travel densities to indicate substantial travel. These routes provide access to and within the city. In addition, 97.2 miles of local roads facilitate short distance travel and provide access to adjacent land. A majority of the road miles in Springfield make up officially accepted municipal roads under the jurisdiction of the city. However, a significant percentage of the city's roads, 89.3 miles or 17.9 percent of the total road miles, are unaccepted roads or private ways. These roads are not officially accepted by municipal authorities, and as such, are not maintained by state or local authorities, and may vary in their layout, construction, and condition. Springfield's Department of Public Works has developed a program to help bring unaccepted roads up to current engineering standards so that they can be officially accepted and maintained by the city.

Since 2000, the Massachusetts Highway Department has contracted for more than \$55 million in roadways improvement projects in Springfield. Among these, more than \$13 million was spent on a ramp reversal project on Interstate 91 near the new Basketball Hall of Fame. This project eliminated weave maneuvers previously necessary for cars entering and exiting the interstate in the downtown area. There are an additional \$26 million in roadways improvement projects in Springfield in the current regional transportation improvement program. Among these projects is nearly \$10 million for State Street improvements related to the city's overall State Street Corridor improvement project. While the funding for the State Street improvements appears to be secure, funding for the remaining \$16 million in projects is uncertain as it is subject to the state budget and competes with numerous other projects around the state including repairs to the Central Artery Tunnel project in Boston.

Springfield is connected to major urban centers in New England by two major highways, Interstate 90 (the Massachusetts Turnpike), which travels east-west, and Interstate 91, which travels north-south. These routes offer easy access to all markets in the eastern United States and Canada. Because of its geographic proximity and transportation infrastructure, people and goods can travel from Springfield to major population centers in New England, including Albany, Boston, Hartford, and New York City, within hours.

One transportation-related problem that Springfield faces, common to most urban centers, is congestion. From 1990 to 2000, the U.S. Census Bureau reports that the average drive time to work for Springfield residents increased 15.9 percent, from 18.5 minutes to 21.5 minutes. In addition, the number of registered vehicles in Springfield has increased steadily from 2000 to 2005, with the exception of a brief pause in growth during the period of the 2001 economic recession. Much of this growth has been in the registration of light trucks. Over the course of this five-year period, there was a net increase of 11,099 vehicles registered in the city, 8,556 of which were light trucks (which includes sports-utility vehicles). Automobiles accounted for 366 additional vehicle registrations during the same period. In 2003, seven sites in Springfield were identified as problem locations as part of the Pioneer Valley Region's Congestion Management System, including entry points to the city from Agawam and Ludlow, and five intra-city locations including Sumner Avenue and the Interstate 291 Rotary at Magazine Street and Armory Street.



### **A Demographic and Economic Analysis of the City of Springfield**

Public and private bus services provide inter-city and intra-city transportation. The Pioneer Valley Transit Authority (PVTa) provides transportation to locations within Springfield and around the Pioneer Valley region. PVTa fares are \$1.00 for adult riders, \$0.75 for children over five, \$0.50 for elderly or disabled riders; children five and under ride free. Monthly commuter passes are available, and cost \$36.00. PVTa's paratransit service offers door-to-door transportation for the elderly and other individuals who are unable to ride the bus due to a disability. While PVTa ridership has been declining in recent years, additional service routes are being added in identified high-traffic areas, including Sumner Avenue, to help increase ridership and alleviate congestion.

Springfield Bus Station, located at the intersection of Main and Liberty Street, is a major transportation hub for the Pioneer Valley region. The 2003 update to the Regional Transportation Plan reports that approximately 150 scheduled trips operate at the terminal daily, serving 1,600 passengers per day. Springfield-based Peter Pan Bus Lines holds the rights to intrastate service within the region, which travels between Amherst, Northampton, Springfield, and Boston. However, Peter Pan buses also provide extensive service to Hartford, Windsor Locks (Bradley International Airport), and New Haven, as well as New York City and Providence.

In addition to ground transportation, Springfield also has convenient access to air transportation. The most notable facility proximate to the city is Bradley International Airport, located in Windsor Locks, Connecticut, 15 miles south of Springfield. Nine major airlines offer service to Bradley International: AmericaWest, American, Continental, Delta, Delta Song, Northwest, Southwest, United, and US Airways. According to the Pioneer Valley Planning Commission's 2003 update to its Regional Transportation Plan, 30 percent of all air-travelers who use Bradley are from the Springfield metropolitan area. Major airline flights departing Bradley International offer direct service to 34 cities in the United States and Canada. In addition, several regional providers also offer service from Bradley, and nearly all major cities in the world are accessible through Bradley via non-direct routes. Passenger travel is also offered at regional airports including Westfield-Barnes Municipal Airport, Westover Air Reserve Base, and Northampton Airport. Freight shipments, however, are not offered at the smaller regional airports; Bradley International and Boston's Logan Airport serve as the principal shipping sources for air freight.

The only passenger rail service on the Springfield line is a regional service currently operated by Amtrak. There are four freight carriers using the Springfield line, including Connecticut Southern, Boston and Maine Corporation, CSX Transportation, and the Providence and Worcester Railroad. In addition to the existing Amtrak service between stations in the corridor, connections to other Amtrak rail service areas are available in New Haven and Springfield. Connections with Metro North's New Haven Line and the Shore Line East commuter rail are also available from New Haven's Union Station and State Street Station.

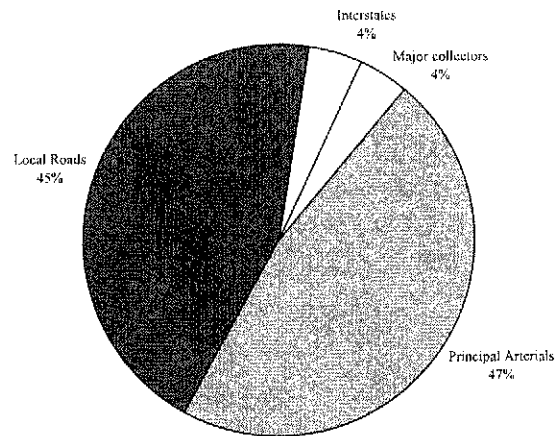
One potential expansion of the city's transportation infrastructure is the installation of commuter rail service to be connected with a commuter rail line currently being developed by the Connecticut Department of Transportation. The commuter rail would provide service both to and from New Haven and Hartford, CT, and Springfield, MA. In addition to serving commuters traveling between the towns and cities along the corridor, the service could provide a connection to Bradley International Airport, links to Amtrak Intercity service, direct links to the existing Metro North and Shore Line East Commuter Rail in New Haven, and links to the proposed New

### A Demographic and Economic Analysis of the City of Springfield

Britain-Hartford Busway. The line itself would utilize 62 miles of existing rail line, owned and operated by Amtrak, beginning in New Haven at Union Station, continuing through several towns and the cities of Meriden and Hartford, and ending at Union Station in Springfield.

**Figure 82**

**Functional Classification of Springfield Miles of Roadways**  
(Total miles of roadway = 497.8 miles)



Source: Pioneer Valley Planning Commission, Regional Transportation Plan, 2003 Update

**Table 23: Classification of Miles of Roadway in Springfield**

Accepted City	395.0 miles
Mass Highway	12.1 miles
State Institutional	1.4 miles
Unaccepted	89.3 miles

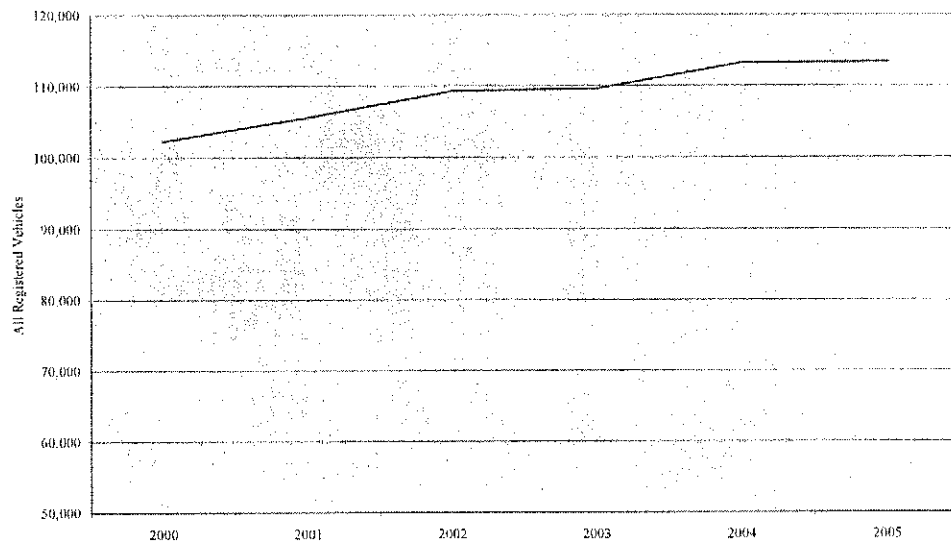
Source: Pioneer Valley Planning Commission.



## A Demographic and Economic Analysis of the City of Springfield

Figure 83

Number of Registered Vehicles in Springfield, 2000-2005



Source: Massachusetts Department of Revenue, Municipal Database

Table 24: Primary Destinations of Flights from Bradley International Airport

Atlanta, GA	Milwaukee, WI
Baltimore, MD	Minneapolis, MN
Buffalo, NY	Montreal, QC (Canada)
Charlotte, NC	Nashville, TN
Chicago, IL	Newark, NJ
Cleveland, OH	Orlando, FL
Columbus, OH	Philadelphia, PA
Cincinnati, OH	Phoenix, AZ
Dallas-Fort Worth, TX	Pittsburgh, PA
Detroit, MI	Raleigh-Durham, NC
Fort Lauderdale, FL	Rochester, NY
Fort Myers, FL	San Juan, Puerto Rico
Houston, TX	St. Louis, MO
Indianapolis, IN	Syracuse, NY
Las Vegas, NV	Tampa, FL
Los Angeles, CA	Toronto, ON (Canada)
Miami, FL	Washington, DC

Source: Bradley International Airport, available at <http://www.bradleyairport.com/flights/destinations.php>

## A Demographic and Economic Analysis of the City of Springfield

### Analyzing Peer Cities

For purposes of understanding Springfield, and for identifying areas of strength and weakness, it is important to compare the city to other cities that might in some respect seem comparable. The purpose of this chapter is to analyze Springfield in comparison to similarly sized cities from across the country. The intention is to identify strengths and weaknesses that are not evident when analyzing Springfield's data alone or even when comparing Springfield to the state of Massachusetts as a whole.

Initially, thirteen cities were identified for comparison to Springfield. These thirteen cities are a selection of the cities that had a 2000 population within about 20,000 people (plus or minus) that of Springfield. While other cities than these thirteen had populations similar to that of Springfield, cities that would be familiar to a typical reader of this report were favored over cities that might be unfamiliar to most readers. Therefore, we selected Dayton, Ohio rather than Fontana, California on the entirely subjective basis that Dayton is likely more recognizable to most readers than Fontana. Subsequently, Hartford, Connecticut was added to the list of peer cities because of its relevance as Springfield's nearby "sister city."

**Table 25: Population of Peer Cities, 2000**

City	2000 Population
Worcester, MA	172,648
Dayton, OH	166,193
Tempe, AZ	158,426
Huntsville, AL	157,899
Fort Lauderdale, FL	152,125
<b>Springfield, MA</b>	<b>152,082</b>
Tallahassee, FL	150,581
Paterson, NJ	149,222
Syracuse, NY	147,326
Hampton, VA	146,437
Vancouver, WA	143,226
Warren, MI	138,276
Eugene, OR	137,799
Salem, OR	136,694
Hartford, CT	121,578

Source: U.S. Census Bureau, 2000 Census.

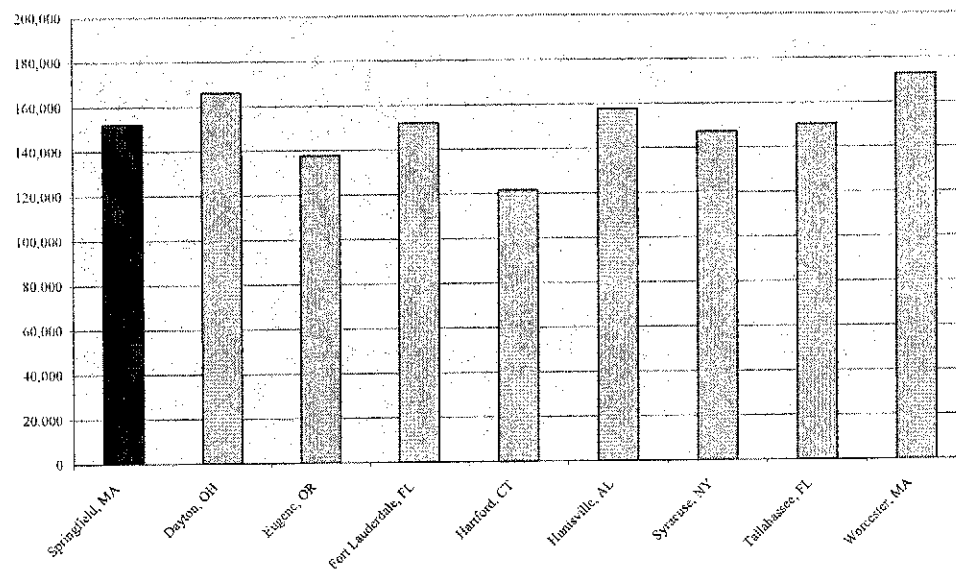
Selection might have been conducted differently, without such a reliance on a single similarity like population size. For example, it was considered whether Springfield ought to be compared with a city against which it competes either for residents or businesses. However, assembling a list of cities against which Springfield competes would have been inconsistent with the realities of economic development and population attraction. Residents and businesses choose to locate in regions not in particular municipalities, therefore an appropriate analysis of Springfield's competitors would require comparing Springfield's region with that of other regions. The city of Springfield competes within its region for businesses and residents who have already elected to locate within or near the Pioneer Valley. Therefore, we decided to compare Springfield to other cities of a similar size because cities of a similar size likely face similar challenges at least with respect to scale.

### A Demographic and Economic Analysis of the City of Springfield

Upon further analysis of the initial list of thirteen comparison cities, it was decided to further limit the list to those cities that are the principal city of their respective region or metropolitan area. This was decided because the reality and circumstances of a city like Tempe, Arizona are heavily influenced by its being a part of the much larger Phoenix metropolitan area. Cities of a size similar to Springfield but located in the same region as a much larger city are much more likely to be partly employment centers and partly bedroom communities for other employment centers. Therefore, for purposes of this chapter, Hampton, Virginia; Paterson, New Jersey; Tempe, Arizona; Vancouver, Washington; and, Warren, Michigan are excluded because they are not the principal city of their respective metropolitan area. Finally, Salem, Oregon was excluded from the analysis because it seemed unnecessary to include two similarly-sized cities from Oregon. Fort Lauderdale and Tallahassee, though both in Florida, were each included because they are very different cities in very different parts of Florida.

**Figure 84**

**Total Population of Peer Cities, 2000**



Source: U.S. Census Bureau, 2000 Census.

## A Demographic and Economic Analysis of the City of Springfield

### Population Demographics and Socio-Economics

Among the final eight peer cities, Springfield's population is nearly in the middle, with three cities slightly larger and five cities slightly smaller. Worcester, Massachusetts has an estimated 2000 population of 172,648 and is the largest, while Hartford, Connecticut is the smallest with a 2000 estimated population of 121,578. Between 2000 and 2005 the population of Springfield, as estimated by the U.S. Census Bureau, has remained relatively stable while that of some peer cities has increased and others decreased. Both Dayton and Syracuse lost population between 2000 and 2005, while the other peer cities grew. Fort Lauderdale experienced the largest population gain, above 8 percent.

An immediate distinction between Springfield and the peer cities emerge when you observe that Springfield's population is less than half white, non-Hispanic. Other than Hartford, Connecticut, every peer city has a population that is at least 50 percent white, non-Hispanic. Interestingly, among the original comparison cities, Springfield did not have the lowest percentage white, non-Hispanic, but once similarly sized cities that are part of larger metropolitan areas are eliminated Springfield has the lowest percentage excepting Hartford. This suggests that Springfield is unusually diverse for a city of its size that is also the central city of its metropolitan area. More than one-quarter of Springfield's population is of Hispanic origin. Among peer cities, only Hartford has a percentage Hispanic higher than that of Springfield. Worcester has the next highest percentage with around 15 percent of its population being of Hispanic origin. Excluding Hartford, which is included not for its similar size but proximate location, it is immediately evident in our analysis that Springfield has more racial and ethnic diversity than similarly-sized communities.

Springfield is also younger than seven of the eight peer cities analyzed here. Again, Hartford is the exception with a slightly higher percentage of the population under 18. In 2000, 27.8 percent of Springfield's population was under the age of 18, compared to only 24 percent for Dayton and Syracuse. Whether this is good or bad news depends on how effectively the city's families and social support networks contribute to the healthy growth and development of this large concentration of children. It is good news if this population of young people can be given the skills and training necessary to integrate themselves into the workforce of the future, otherwise it will be bad news. Given the overwhelming migration of retirees to southern climates, it is unsurprising that Fort Lauderdale and Tallahassee have the lowest percentages children.

Nearly half of families with children in Springfield are headed by a single female. Similar percentages of families are headed by single females in Dayton and Syracuse, but in several peer cities, notably Eugene, less than one in four families with children are headed by single females. A large population of children and a large percentage of families with children headed by a single parent is a worrisome reality for Springfield given the additional challenges, statistically, faced by children raised in single-mother households. Again, the reality in Springfield pales in comparison to that of Hartford where nearly 60 percent of families with children are headed by single females.

Turning to the issue of migration and mobility, it is evident that Springfield has one of the most stable populations among the group of comparison cities. Nearly 90 percent of Springfield's residents in 2000 lived in the same county (Hampden County, Massachusetts) in 1995. Dayton, Hartford, and Worcester have similarly high percentages of stable residents, but no other peer city has a percentage above 80 percent.

### A Demographic and Economic Analysis of the City of Springfield

Educationally, the city of Springfield is again comparable to Dayton, Ohio and Hartford, Connecticut, but all three of these cities lag behind the remainder of the comparison group. Only 15.4 percent of Springfield adults had a bachelors degree in 2000, which fares well compared to Dayton's 14.4 percent and Hartford's 12.4 percent, but pales in comparison to Eugene or Tallahassee where 37.2 and 45.0 percent of adults have bachelors degrees respectively. In nearby Worcester, 23.3 percent of adults have bachelors degrees. This data is troubling in light of the emerging knowledge economy and the critical need for workers to get a higher education in order to earn a livable wage.

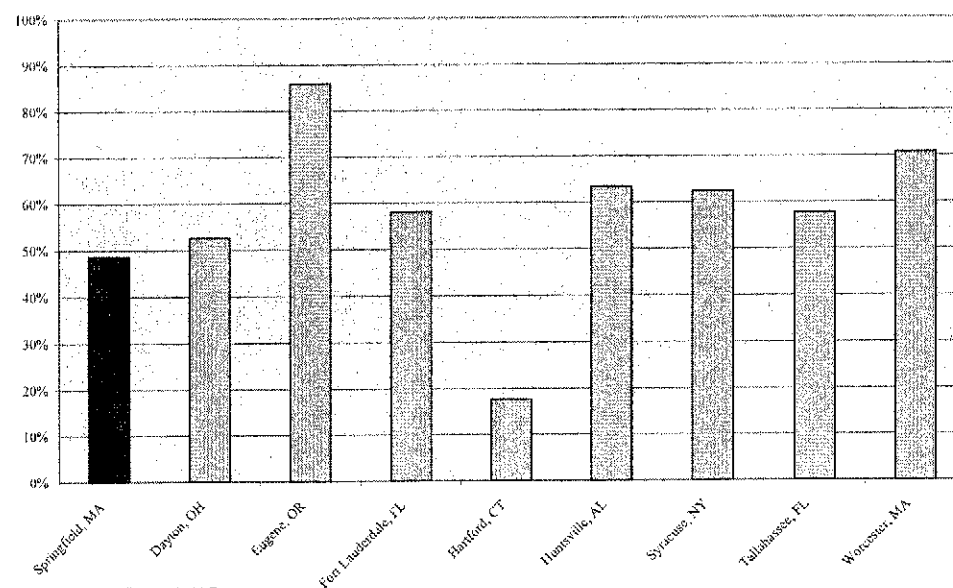
**Table 26: Population Estimates for Peer Cities, 2000-2005**

City	2000	2001	2002	2003	2004	2005	Chg. 00-05
Dayton	165,791	164,076	162,701	161,721	160,158	158,873	-4.17%
Eugene	138,768	139,448	140,774	142,315	142,794	144,515	4.14%
Fort Lauderdale	154,664	156,396	157,797	162,680	164,354	167,380	8.22%
Hartford	124,191	124,322	124,413	124,590	124,564	124,397	0.17%
Huntsville	159,734	160,227	161,766	162,558	164,570	166,313	4.12%
<b>Springfield</b>	<b>152,092</b>	<b>151,511</b>	<b>151,993</b>	<b>152,188</b>	<b>151,975</b>	<b>151,732</b>	<b>-0.24%</b>
Syracuse	146,285	145,334	144,544	143,748	142,771	141,683	-3.15%
Tallahassee	152,657	151,696	152,285	155,330	156,530	158,500	3.83%
Worcester	173,025	174,078	175,071	175,495	175,770	175,898	1.66%

Source: U.S. Census Bureau, 2005 Population Estimates.

**Figure 85**

Percent of the Population that is White, Non-Hispanic, 2000

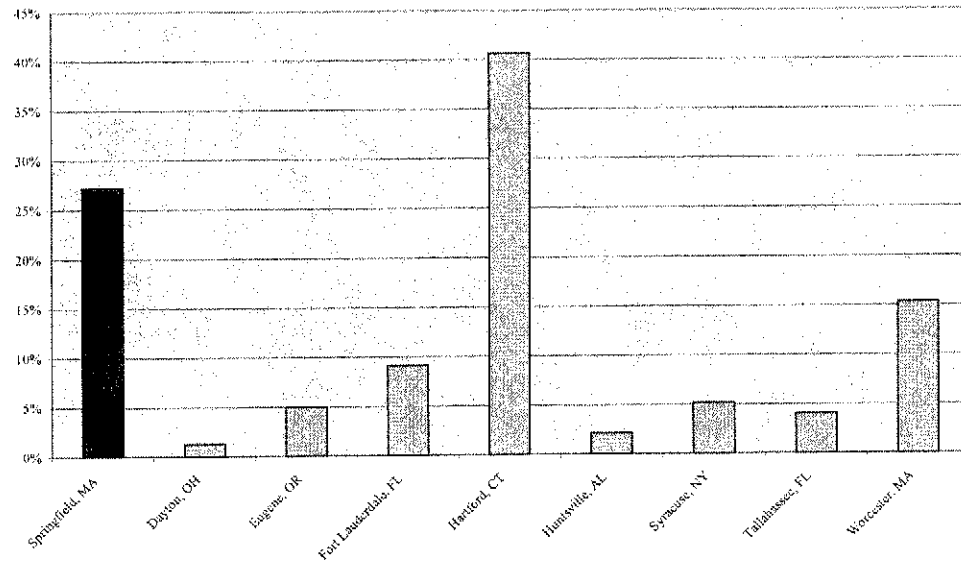


Source: U.S. Census Bureau, 2000 Census.

# A Demographic and Economic Analysis of the City of Springfield

**Figure 86**

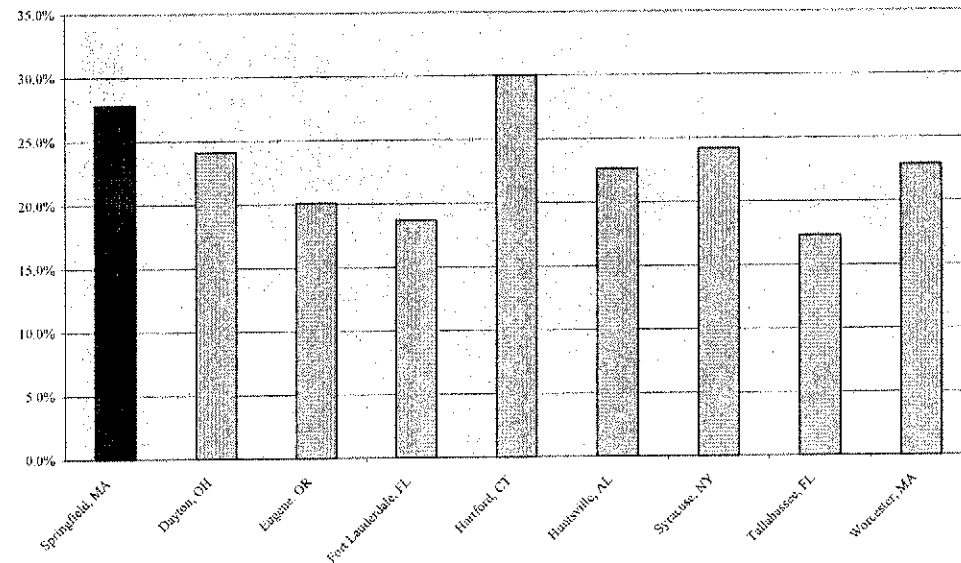
Percent of the Population that is of Hispanic Origin, 2000



Source: U.S. Census Bureau, 2000 Census.

**Figure 87**

Percent of the Population that is Under 18 Years of Age, 2000



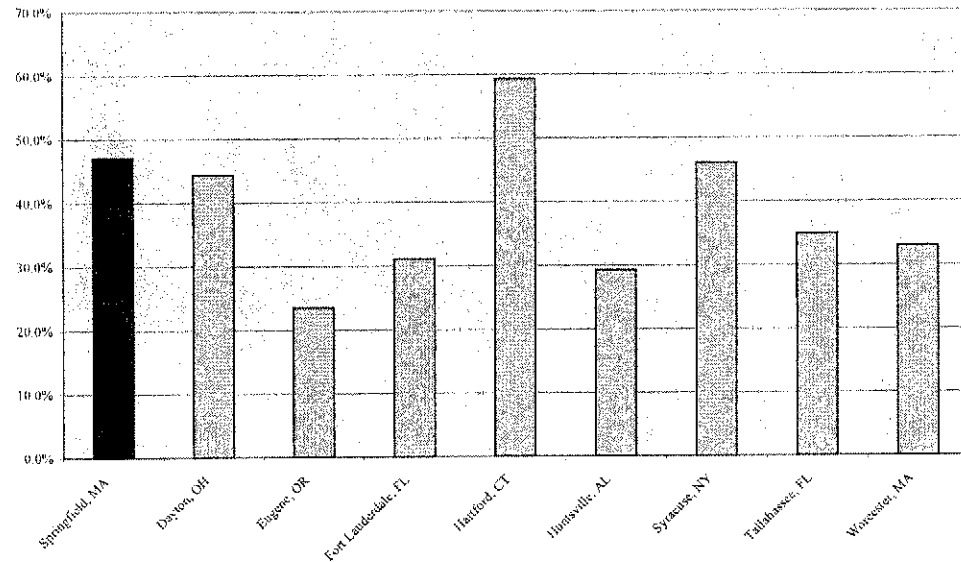
Source: U.S. Census Bureau, 2000 Census.



# A Demographic and Economic Analysis of the City of Springfield

**Figure 88**

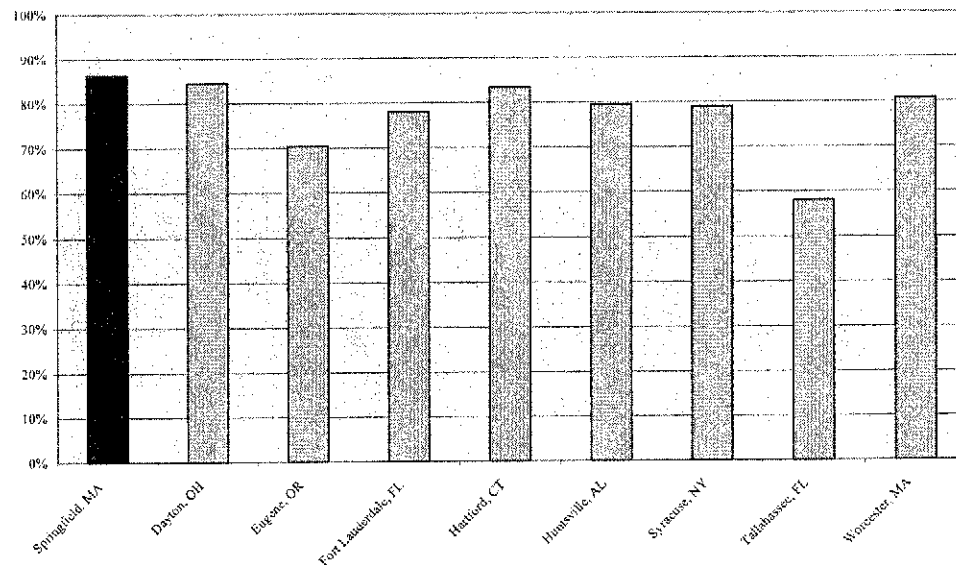
Percent of Families, with Children under 18, Headed by a Single Female, 2000



Source: U.S. Census Bureau, 2000 Census

**Figure 89**

Percent of Households Living in the Same County in 2000 as in 1995



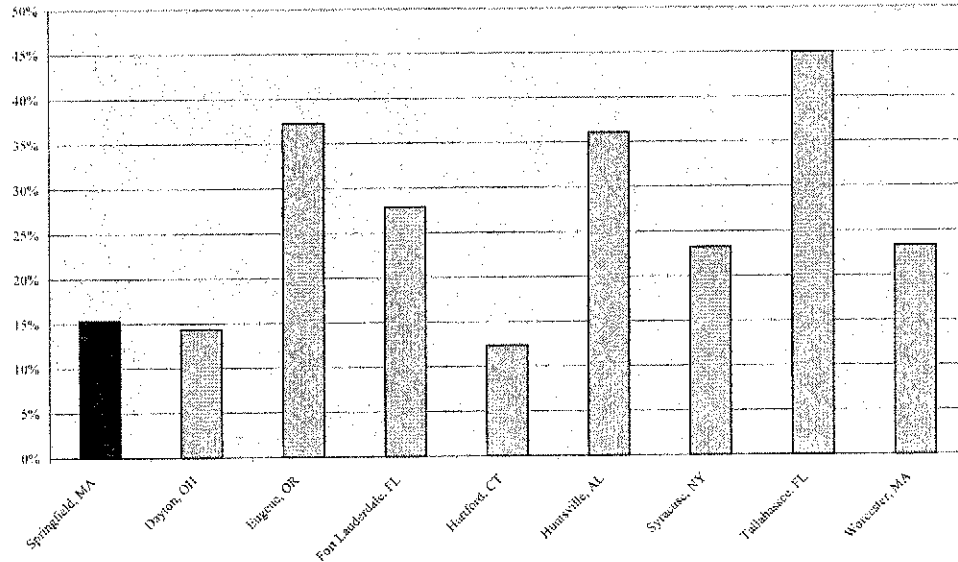
Source: U.S. Census Bureau, 2000 Census



# A Demographic and Economic Analysis of the City of Springfield

**Figure 90**

Percent of adults with a bachelors degree or higher



Source: U.S. Census Bureau, 2005 Population Estimates

## A Demographic and Economic Analysis of the City of Springfield

### Household Economics

Both the low levels of educational attainment and the high percentage of families headed by a single parent make it unsurprising that Springfield has one of the highest poverty rates among peer cities. Hartford, Syracuse, and Tallahassee each have higher poverty rates than Springfield, at 30.6, 27.3, and 24.7 percent respectively. Springfield's poverty rate, at 23.1 percent, is unacceptably high, more than ten percentage points above that of the nation and meaning that nearly one in four Springfield residents live below the Federal poverty line.

Turning to child poverty rates (the percent of children living in households with incomes below the Federal poverty line), in Hartford, Springfield, and Syracuse more than one in three children live in poverty. Child poverty rates are high in all the peer cities, but seem drastically so in Hartford, Springfield, and Syracuse. This is one byproduct of so many children living in single-parent households in a city with low levels of educational attainment. Low earning power workers living in households with only one wage earner is a recipe for high poverty rates.

Given the high poverty rates in Springfield, which reflects low income, it is perhaps unsurprising that 41.8 percent of Springfield households who rent are spending 30 percent or more of their income on housing. Nevertheless, in five peer cities – Eugene, Fort Lauderdale, Hartford, Syracuse, and Tallahassee – a higher percentage of renters spend 30 percent or more of their income on housing than is the case in Springfield. Despite Springfield's location in New England, and despite the relatively low income of its population, housing in Springfield remains more affordable for renters than is the case in a majority of similarly-sized cities.

The per capita income in the Springfield area (Hampden County) in 2004 was \$31,070, with the counties of six of the eight peer cities having higher per capita incomes. Only the counties of Eugene and Tallahassee had per capita incomes lower than that of Springfield. Between 2001 and 2004, Hampden County's per capita income increased by 2.3 percent. While this rate of growth lags behind three of the peer cities, Springfield's home county substantially outpaced the counties of nearby Hartford and Worcester. Because per capita incomes were adjusted for inflation before calculating percent changes, an increase reflects an actual increase in the income of the county's residents, though it does not address the distribution of that income among people within the area. Nevertheless, if the Springfield area can maintain a positive rate of growth in per capita income, it can only be good for the city.

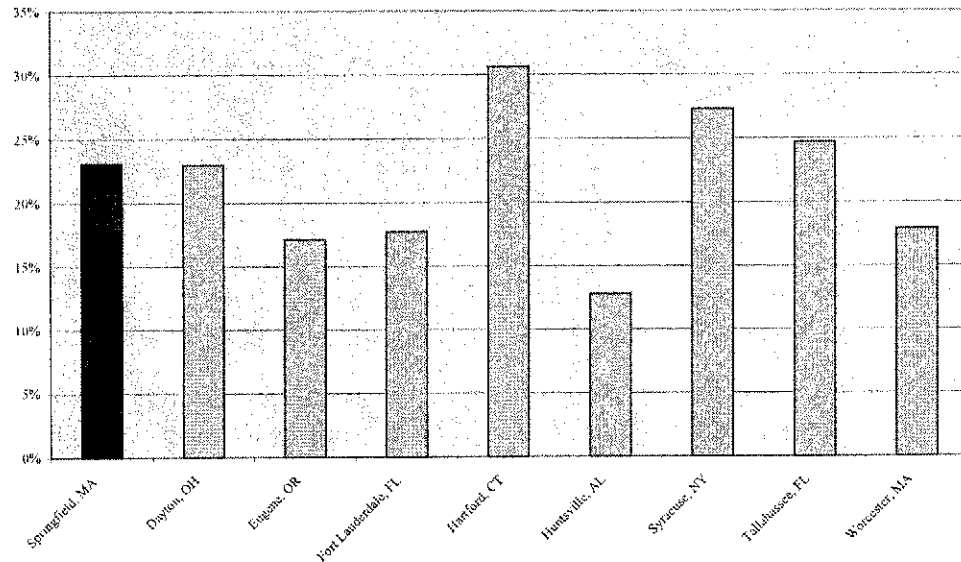
Interestingly, despite being in generally high-cost Massachusetts, the Springfield metropolitan area does not have the highest housing prices among comparison cities' metropolitan areas. Median sale prices for existing single-family homes are significantly higher than Springfield in Fort Lauderdale, Hartford, and Worcester. That Worcester metropolitan area prices are 44.1 percent higher than in Springfield indicates that the rapid rise of housing prices in the Greater Boston area has significantly impacted Worcester, but has not affected Springfield. It also suggests that the Springfield area remains a low-cost haven for families who can no longer afford the high prices to the East and South.

Springfield is also third among peer cities in the rate of housing price growth between 2003 and 2005. During that period the Springfield metropolitan area saw the median sale price for an existing single-family home rise by 17.1 percent. Only Eugene and Fort Lauderdale had larger price increases. That Springfield's rate of price appreciation was higher than Worcester's between 2003 and 2005 indicates the possibility that the high housing prices spreading west from Boston, that had already impacted Worcester by 2003, are now reaching parts of the Springfield metropolitan area.

## A Demographic and Economic Analysis of the City of Springfield

Figure 91

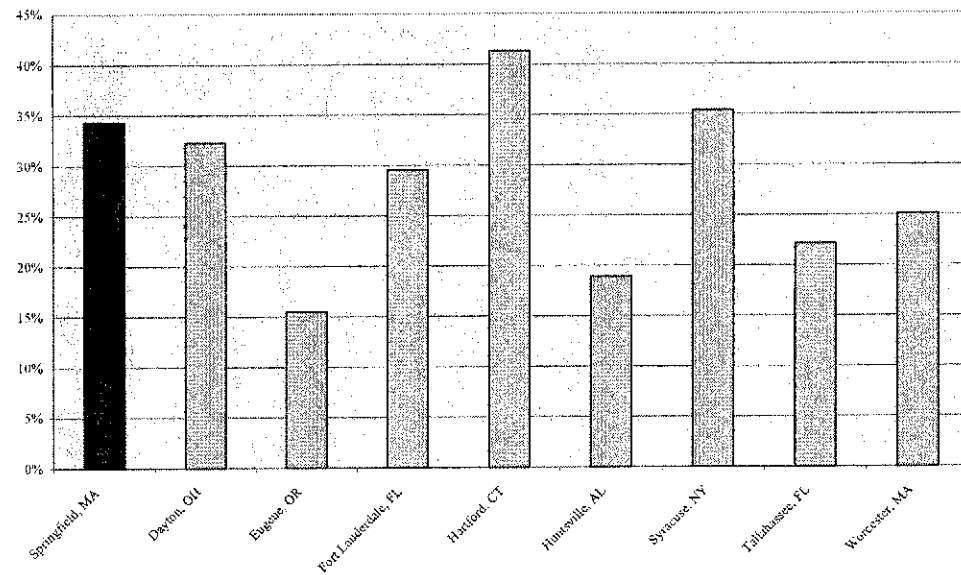
Poverty Rate, 2000



Source: U.S. Census Bureau, 2000 Census

Figure 92

Child Poverty Rate, 2000

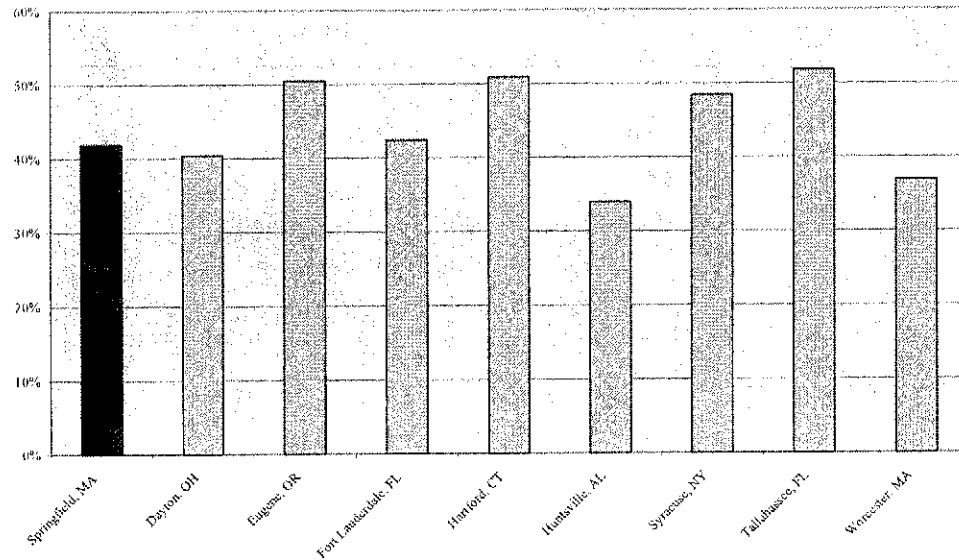


Source: U.S. Census Bureau, 2000 Census

# A Demographic and Economic Analysis of the City of Springfield

**Figure 93**

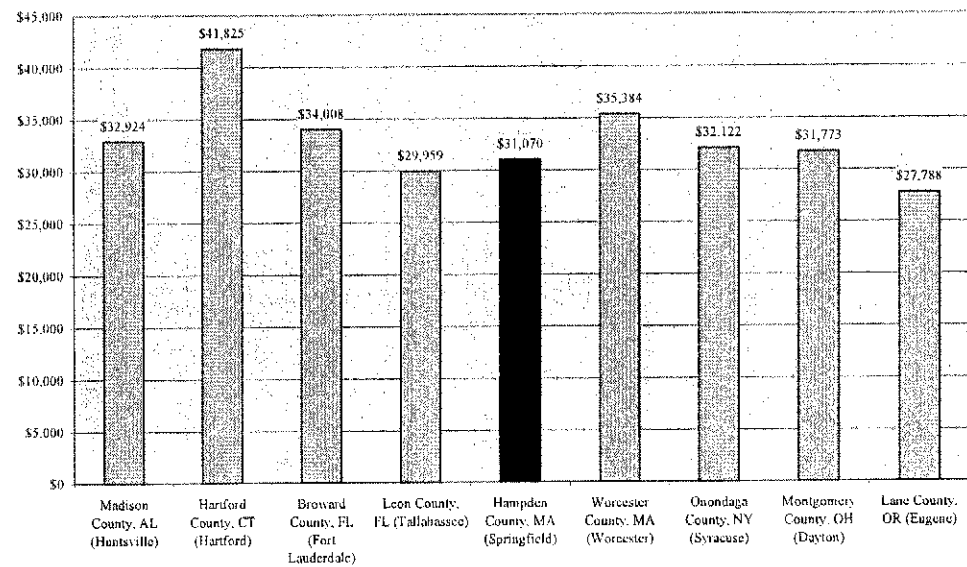
**Percent of Renters Spending 30 Percent or More of their Income on Housing, 2000**



Source: U.S. Census Bureau, 2000 Census.

**Figure 94**

**Per Capita Income, 2004**

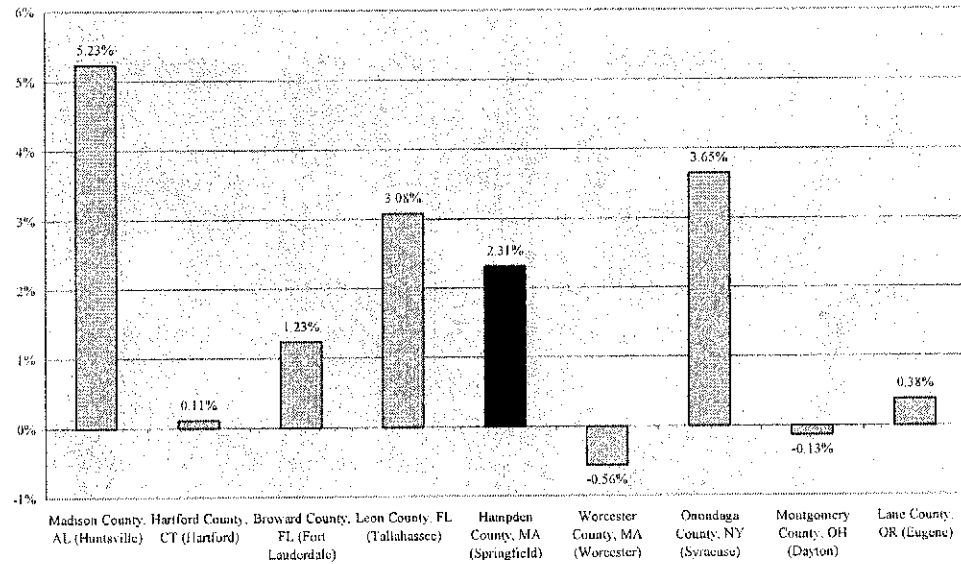


Source: U.S. Bureau of Economic Analysis, Regional Economic Information System

## A Demographic and Economic Analysis of the City of Springfield

**Figure 95**

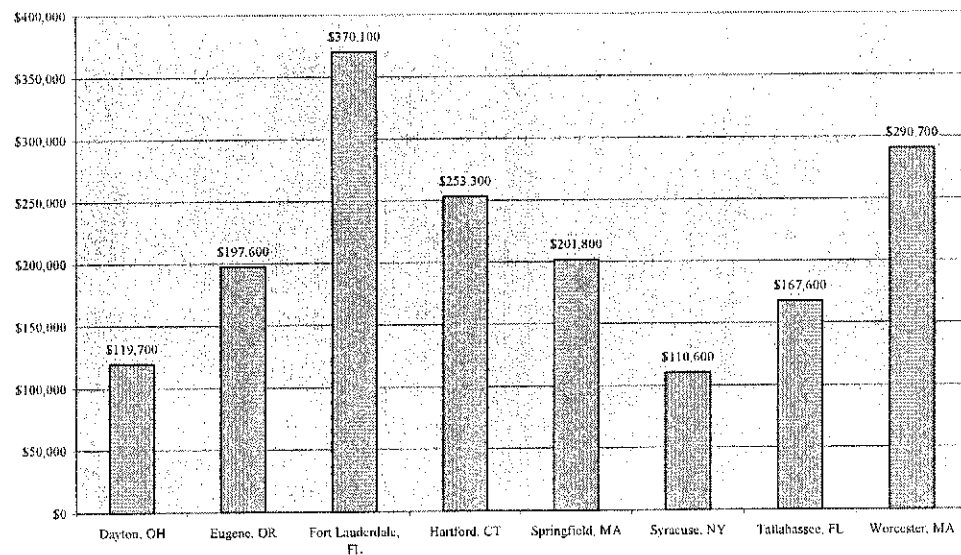
Change in Per Capita Income, 2001-2004 (inflation-adjusted)



Source: U.S. Bureau of Economic Analysis, Regional Economic Information System

**Figure 96**

Median Sale Price of Existing Single-Family Homes by Metropolitan Area, 2005

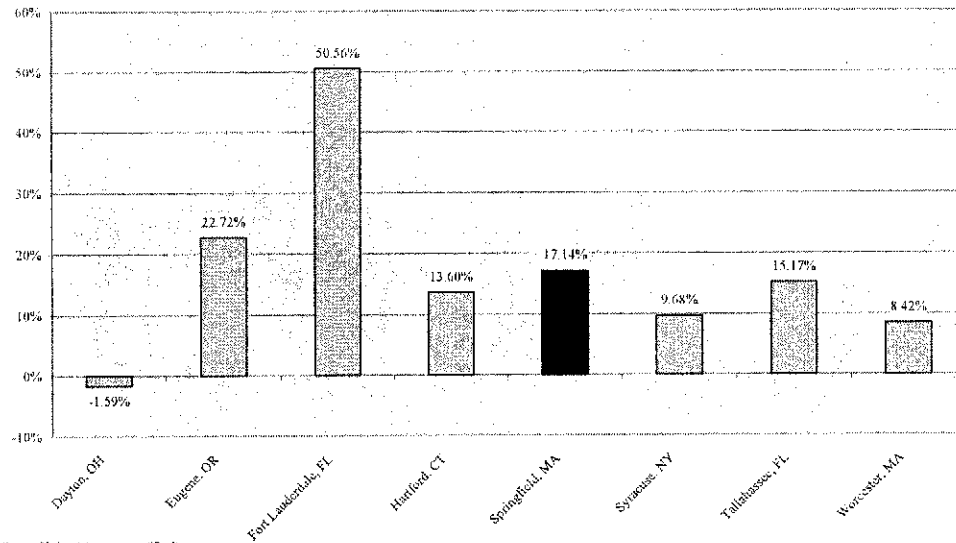


Source: National Association of Realtors  
Note: No data available for Huntsville, AL.

## A Demographic and Economic Analysis of the City of Springfield

Figure 97

Percent Change in Sale Price of Existing Single-Family Homes by Metropolitan Area, 2003-2005  
(adjusted for inflation)



Source: National Association of Realtors  
Note: No data available for Knoxville, TN.



## A Demographic and Economic Analysis of the City of Springfield

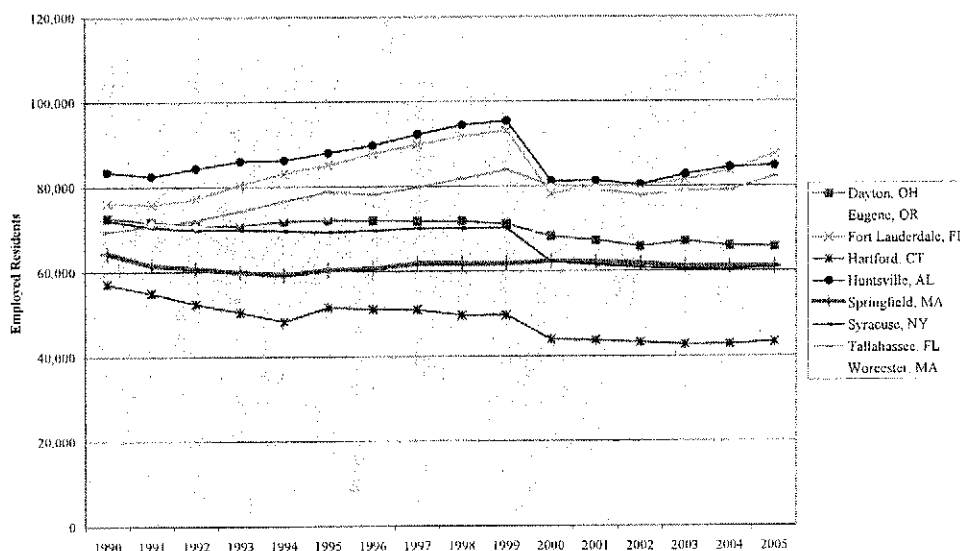
### Labor Force

Turning our attention to Springfield's labor market, we find that despite being in the middle of the population distribution among its peer cities, Springfield has one of the lowest numbers of employed residents. With about 60,000 employed residents in 2005, Springfield only had more employed residents than Hartford and Syracuse, both cities with 30,000 and 10,000 fewer residents respectively. Employment of Springfield residents, as with nearly all the peer cities, remained fairly steady between 1990 and 2005.

With respect to unemployment, Springfield's unemployment rate, as with every city, is heavily influenced by the national economy. Springfield and all the peer cities had unemployment rate peaks in 1991 or 1992 during a nationwide economic recession. In 1991, Springfield's unemployment rate was the highest among the comparison group, reaching 11.5 percent. Subsequent to the early 1990s recession, every community experienced significant declines in their unemployment rate through 2000, with Springfield's unemployment rate hitting 4.1 percent in that year. However, a recession in 2001 caused rising unemployment rates through 2003. Between 2003 and 2005 the unemployment rates of all the cities have fallen. As with the recession in the early 1990s, Springfield's unemployment rate was among the highest in the comparison group between 2002 and 2005, peaking at 8.1 percent in 2003. Unfortunately, missing from this analysis is the degree to which workers in Springfield have exited the labor force in frustration, becoming discouraged workers not tabulated in the unemployment rate.

**Figure 98**

Total Employment of Residents, 1990-2005

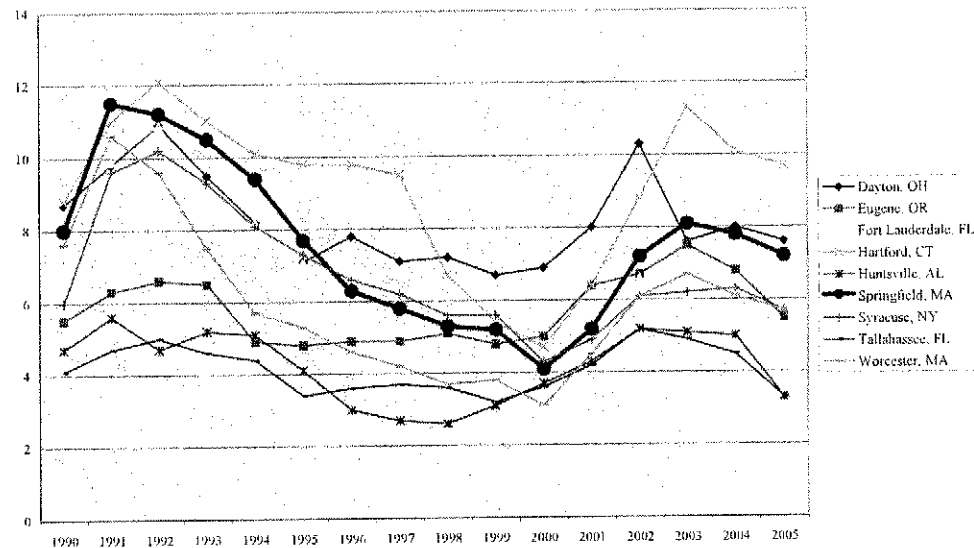


Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics

# A Demographic and Economic Analysis of the City of Springfield

**Figure 99**

Unemployment Rate of Residents, 1990-2005



Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics

## A Demographic and Economic Analysis of the City of Springfield

### Employment and Business Growth

Because of data limitations, it is necessary for some analyses of employment to analyze county-level data. Reviewing 2004 employment in the counties containing peer cities, we find that only Dayton and Fort Lauderdale's counties have a lower percentage of total employment from government. With respect to the share of employment that is in goods-producing industries, Hampden County (Springfield) is in the middle of the comparison group with some communities having a higher share and some lower. Overall, it is interesting to note the lack of government employment in Hampden County, as a component of overall employment in the city, suggesting that Springfield might benefit from state offices choosing to locate in the city.

Private sector wages in Springfield's Hampden County, with an average annual wage of \$35,986, are lower than six of the eight peer cities. Only Eugene and Tallahassee have lower average annual wages than Springfield. Low average wages present an opportunity to market the city's workforce to businesses looking for reasonable labor costs. That Worcester's average annual wages in 2004 were 11.2 percent higher than those of Springfield suggests that Springfield is not in the same labor market or high-cost business climate that dominates the eastern half of Massachusetts.

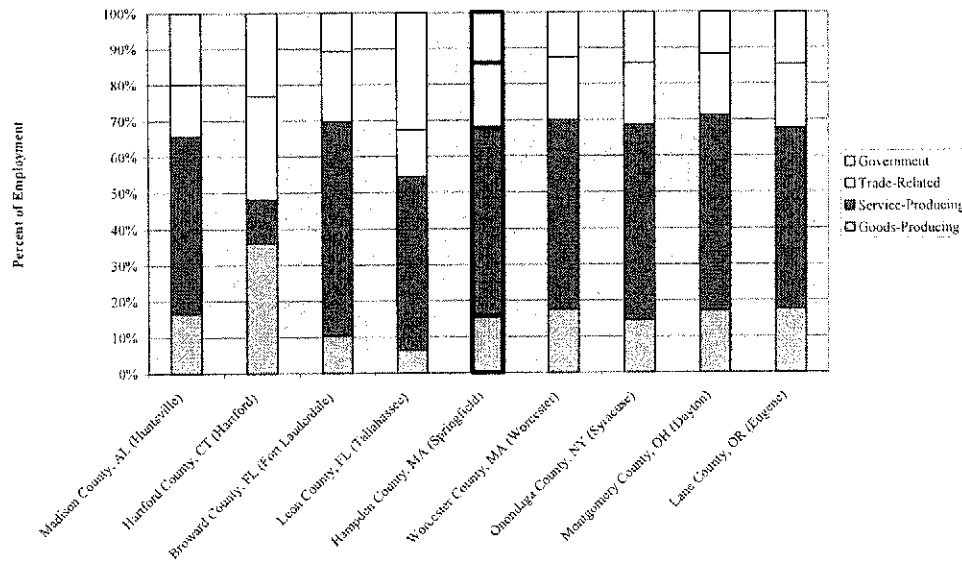
Though overall employment in Springfield fell by 0.04 percent between 2003 and 2004, only one of two cities in the comparison group to show a decline, this bad news is offset by the reality that private sector employment in Springfield rose during the same period by 0.4 percent. In total this suggests that a net loss of 81 government jobs between 2003 and 2004 was more than offset by a net increase of 819 private sector jobs.

Perhaps more interesting than net employment change in Springfield over the 2003 to 2004 period, is the growth in the number of employers in Springfield. In a single year Springfield saw a 5.4 percent increase in the number of business establishments in the city. The next closest peer city was Fort Lauderdale that saw a 4.5 percent increase in the number of business establishments, but this was more expected because Fort Lauderdale's total employment increased by nearly two percent. The explosive growth in the number of Springfield-based establishments when compared to peer cities, and in light of little total employment growth, suggests that entrepreneurship is very active in Springfield and new businesses are emerging, but without showing significant employment gains yet. If Springfield's new businesses, as represented by the 5.4 percent net growth in number of businesses, can be further capitalized and supported, it is likely that they will become the source of future employment growth in Springfield.

## A Demographic and Economic Analysis of the City of Springfield

Figure 100

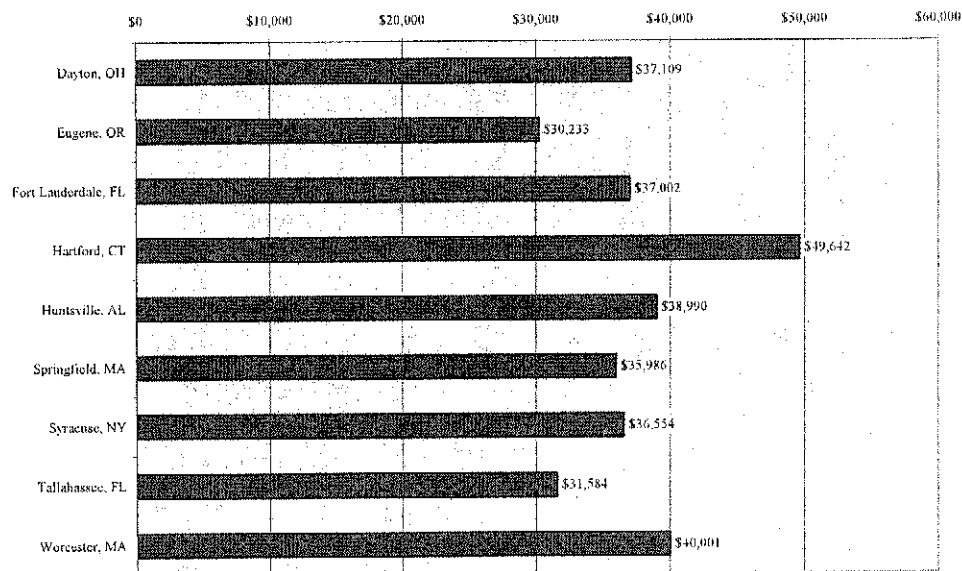
Employment by Type, by County, 2004



Source: U.S. Bureau of Economic Analysis, Regional Economic Information System

Figure 101

Average Annual Pay in Private Sector Employment, by County, 2004



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

## A Demographic and Economic Analysis of the City of Springfield

Figure 102

Percent Change in Employment, by County, 2003 to 2004

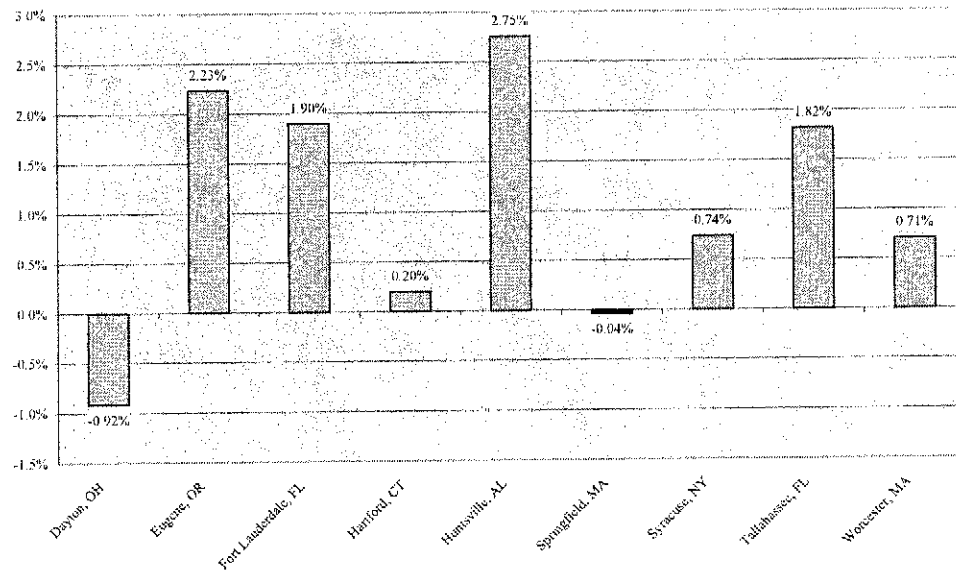
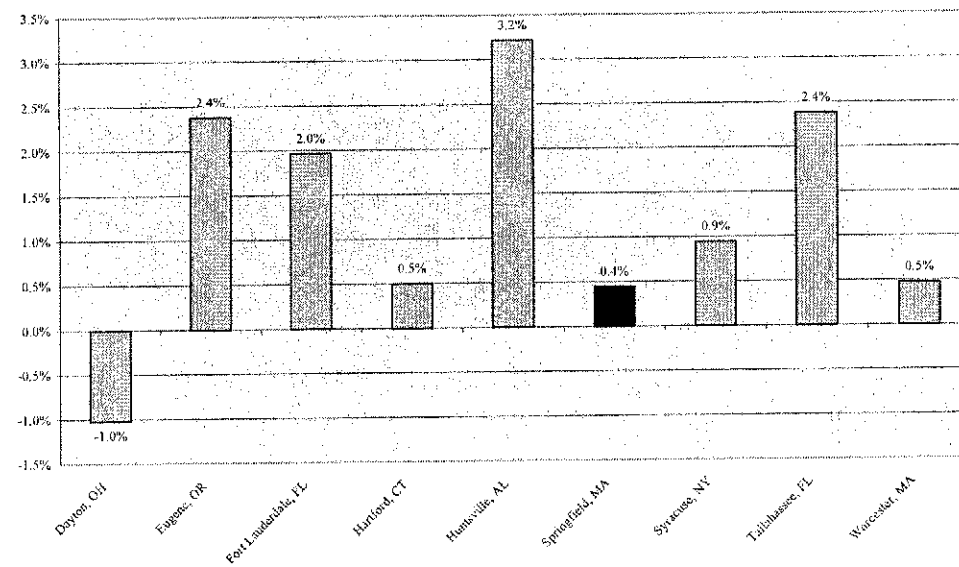


Figure 103

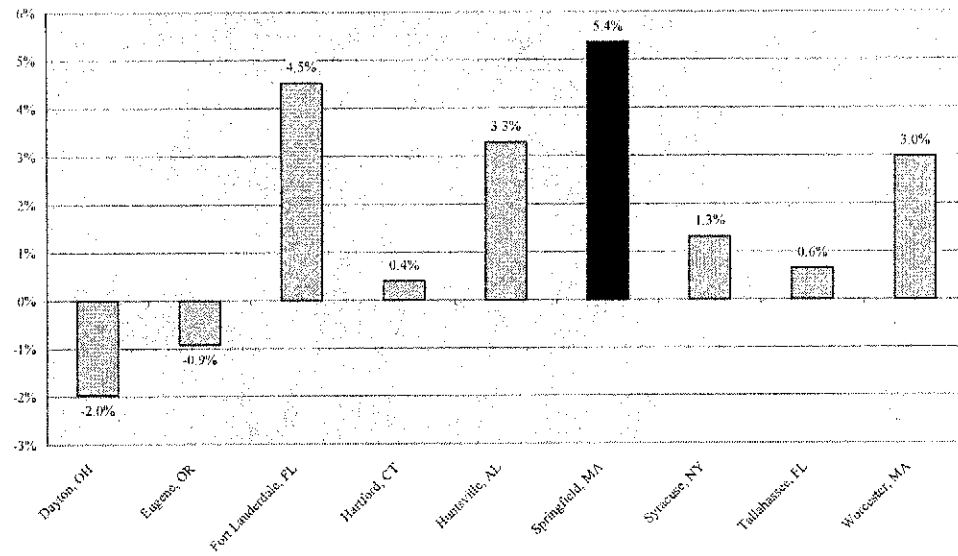
Percent Change in Private Sector Employment, by County, 2003 to 2004



## A Demographic and Economic Analysis of the City of Springfield

Figure 104

Percent Change in Number of Private Sector Establishments, by County, 2003 to 2004



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages.



## A Demographic and Economic Analysis of the City of Springfield

### Crime

One of the challenges that has faced Springfield for years is the perception, and in some cases the reality, of high rates of crime. High rates of motor vehicle theft create significant extra expense for city residents in purchasing auto insurance. Concerns about violent or property crime can be a deterrent for potential residents and businesses. Nevertheless, it is important to compare the level of crime in Springfield to that of similarly-sized cities. One note of caution: it has been acknowledged by the Springfield Police Department that crime data reported prior to 2006 was often inaccurate, but in order to report comparable data, we elected to use the data as reported to the U.S. Department of Justice, knowing it may not be completely accurate.

Averaging crime data across 2004 and 2005, Springfield's rate of violent crime was 8.66 violent crimes per 1,000 residents. This rate is 52.4 percent higher than the violent crime rate of Hartford, the city with the next highest rate. Beyond Hartford, Springfield's rate of violent crime rate is 84.6 percent higher than the next two highest cities, Dayton and Syracuse. Springfield's rate of violent crime is also more than double that of nearby Worcester. It is important to note that Springfield's violent crime rate exceeds that of cities with higher poverty rates.

Positively, Springfield does not have the highest 2004-2005 murder rate among comparison cities. Dayton, Hartford, and Syracuse all have higher murder rates than Springfield, but Springfield is fourth with 5.3 murders annually per 100,000 residents. This translates to an average of eight murders per year in Springfield. As with violent crime, Springfield's murder rate is double that of Worcester.

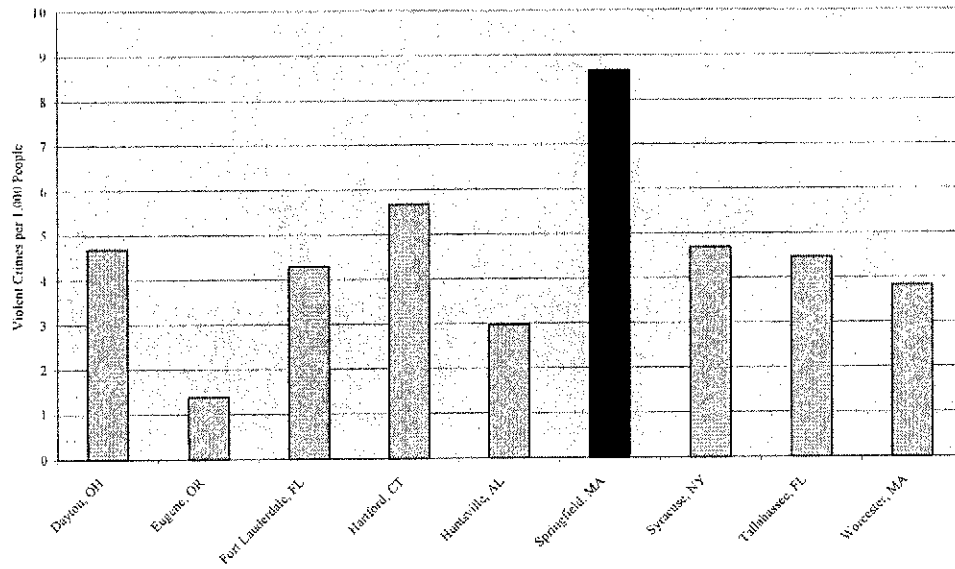
Unsurprisingly, the high rates for auto insurance in Springfield are not unwarranted. Among comparison cities, Springfield has the second highest rate of motor vehicle theft with 6.9 motor vehicles stolen per 1,000 residents. Only Hartford has a higher rate and Dayton has a similarly high rate, but Springfield's rate doubles that of four of the eight peer cities.

Finally, and more positively, Springfield's overall property crime rate ranks fifth among the nine cities with 29.9 property crimes per 1,000 residents. While four peer cities exceed this rate, Springfield still has a property crime rate 68 percent higher than that of neighbor Worcester.

# A Demographic and Economic Analysis of the City of Springfield

**Figure 105**

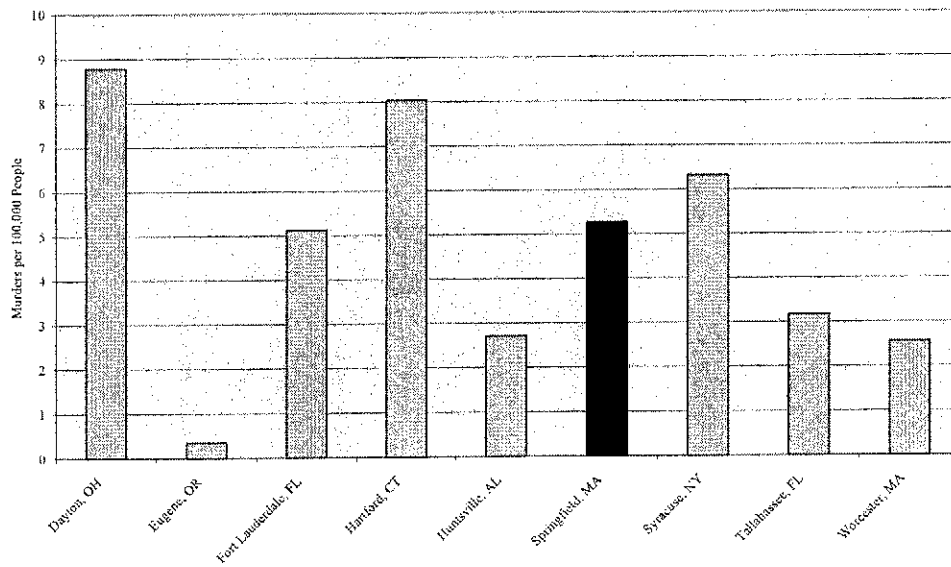
Violent Crime Rate, 2004-2005 Average



Source: Federal Bureau of Investigation, Uniform Crime Reports.

**Figure 106**

Murder Rate, 2004-2005 Average

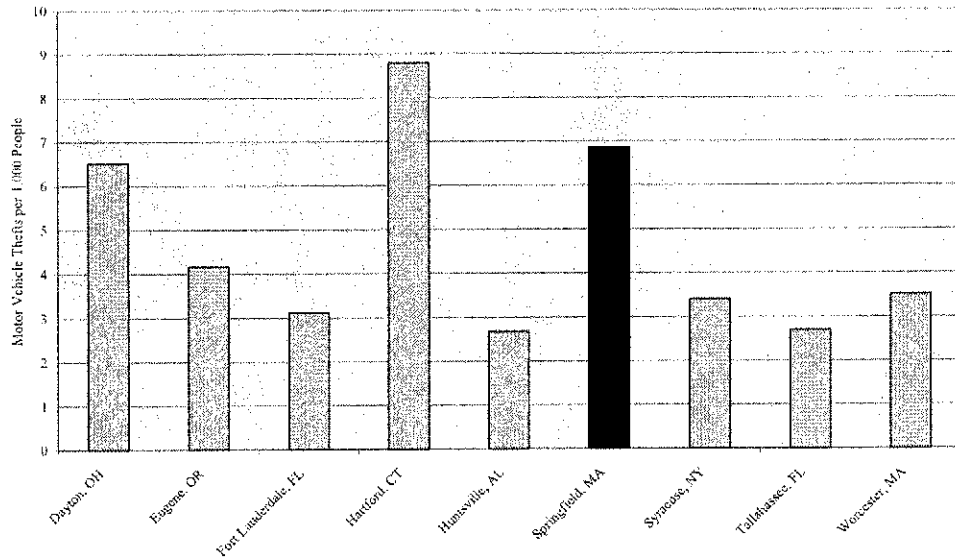


Source: Federal Bureau of Investigation, Uniform Crime Reports.

# A Demographic and Economic Analysis of the City of Springfield

**Figure 107**

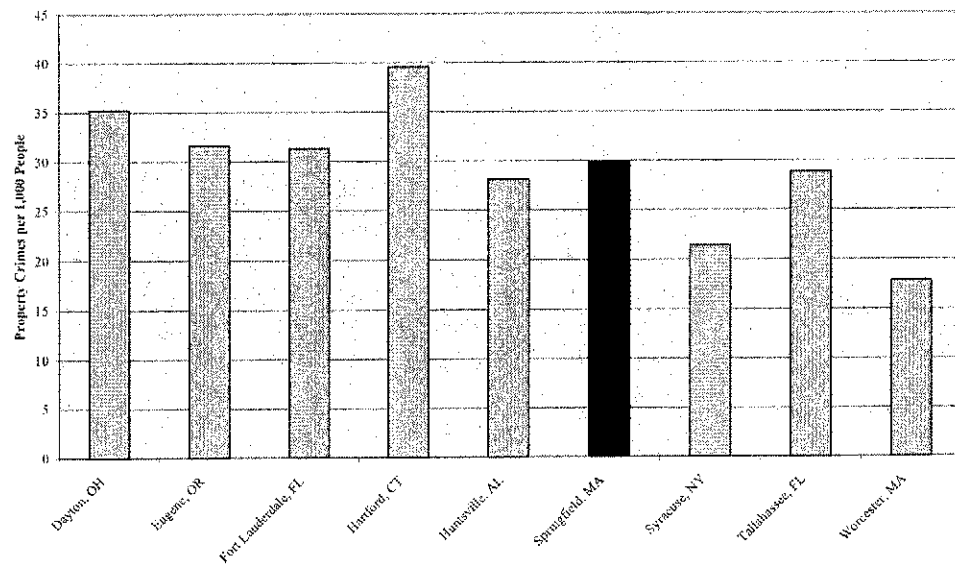
Motor Vehicle Theft Rate, 2005



Source: Federal Bureau of Investigation, Uniform Crime Reports

**Figure 108**

Property Crime Rate, 2005



Source: Federal Bureau of Investigation, Uniform Crime Reports

## A Demographic and Economic Analysis of the City of Springfield

### A Note on Sources and Methods

#### Sources

This report relies on an extensive set of public and private data sources. In general, we have not included references to particular sources within the text of the report narrative. This was a deliberate decision to avoid making the text unreadable. In general, however, each section of the report is followed by the charts, graphs, and tables that present the data discussed in that section. Each chart, table, or graph includes a source reference. Therefore, in general it is possible to identify the sources behind the data in a particular section of the narrative by reviewing the charts, tables, or graphs at the end of that section.

In addition to the sources identified for each table, chart, and graph, following is a list of every data source used in the preparation of this report.

- Boston Water and Sewer Commission;
- Bradley International Airport;
- Colebrook Realty Group, Office Space Surveys;
- Federal Bureau of Investigation, Uniform Crime Reports;
- InfoUSA database;
- Massachusetts Department of Education;
- Massachusetts Department of Revenue;
- Massachusetts Department of Telecommunications and Energy;
- Massachusetts Department of Workforce Development, Local Area Unemployment Statistics;
- Massachusetts Department of Workforce Development, Quarterly Census of Employment and Wages;
- Massachusetts Executive Office of Environmental Affairs, Office of Geographic and Environmental Information, Land Use Summary Statistics from the Resource Mapping Project at the University of Massachusetts Amherst;
- National Association of Realtors;
- Pioneer Valley Christian School;
- Pioneer Valley Montessori School;
- Pioneer Valley Planning Commission, Brownfields inventory;
- Pioneer Valley Planning Commission, Regional Transportation Plan;
- Springfield Diocese of the Catholic Church;
- Springfield Water and Sewer Commission;
- The MacDuffie School;
- The Warren Group, TownStats;
- U.S. Bureau of Economic Analysis, Regional Economic Information System;
- U.S. Bureau of Labor Statistics, 2014 Occupational Employment Projections;
- U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics;
- U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages;
- U.S. Census Bureau, American Community Survey;
- U.S. Census Bureau, Decennial Census' (1970, 1980, 1990, & 2000);
- U.S. Department of Education, Integrated Postsecondary Education Data System;
- U.S. Department of Housing and Urban Development, State of the Cities Data System;

### **A Demographic and Economic Analysis of the City of Springfield**

- City of Worcester, Massachusetts; and,
- [www.loopnet.com](http://www.loopnet.com).

### **Methods**

Throughout this report particular methods are generally documented as they are employed in analysis. For example, a description of how location quotients are calculated can be found in the section on industry clusters. Similarly, the approach used to define Springfield's peer cities is discussed in the introduction to the peer cities analysis. Nevertheless, one global methodological note regards inflation adjustments.

Whenever dollar figures are reported for multiple periods of time the numbers are adjusted for inflation. This represents a judgment call and there are reasons to report amounts in nominal versus real figures. However, we decided to be consistent throughout the report and because the purpose of this report is to identify Springfield's current state and the trends leading to it, we elected to adjust for inflation so trends that are in fact negative do not appear positive. For example, median family income has steadily increased for forty years in Springfield, but after adjusting for inflation actual median family income has been declining. We did not adjust all dollar figures to a particular year, so it is necessary to identify the particular year for which dollars are represented in a given chart or passage of the narrative. In all cases dollar figures are adjusted using the U.S. Bureau of Labor Statistics' consumer price index for all goods and all urban consumers in the Northeast region.

# EXHIBIT C

## (Part 1)



# Owning a Place to Call Home:

An Analysis of Fair and Subprime Lending in the  
Springfield Metropolitan Area



December 2003

Prepared by:

Regional Information Center  
Pioneer Valley Planning Commission  
26 Central Street  
West Springfield, MA 01089

## EXECUTIVE SUMMARY

The Pioneer Valley Planning Commission (PVPC), as the designated regional planning agency for the Hampden and Hampshire county areas, strives to plan for and promote an environment in which business and residents can prosper together. One of the essential components for any region's success is homeownership, because it ties residents to their immediate communities while also providing economic opportunity and stability for individuals and families. PVPC decided to analyze fair and subprime lending in the Pioneer Valley after questions about mortgage lending practices arose during strategy sessions for the Plan for Progress, the region's economic development plan. Recent national economic developments, studies conducted by federal agencies, and studies of local practices in other regions reinforced our commitment to investigate this complex issue here in the Pioneer Valley.

The purpose of this study is to create a detailed analysis of the regional home lending market with an emphasis on fair lending practices and subprime lending. We examined lending market statistics for the Springfield Metropolitan Statistical Area (MSA) from 1996 through 2001. The analysis includes trends across the region and patterns of lending by census tract. The fundamental question driving our research is: *Do similar applicants receive similar treatment?* Equal access and fair treatment in the lending market are important for both disadvantaged residents and the vitality of the region's urban core because of the significant economic benefits of homeownership.

Analyzing data on the volume of loan applications and the rate of denial for mortgages provides valuable information regarding fairness. The two principal sources of data for this study are the U.S. Census Bureau and the annual release of Home Mortgage Disclosure Act records by the Federal Financial Institutions Examination Council. This study uses various methods to compare lending statistics of different loan applicants to provide the most objective, accurate, and thorough report possible. A complete explanation of data sources, definitions, and methods may be found in the Methodology section of the full report. The main sections of this report are 1) an overview of the regional lending market; 2) an analysis of fair lending based on trends and patterns in lending statistics by race, ethnicity, income, and geography; and 3) an examination of the subprime lending market.

Regional Lending

Between 1996 and 2001, the regional lending market has grown in volume and value, which is encouraging news for the Springfield MSA. The impact of macroeconomic shifts and remarkable fluctuations in interest rates across the nation are evident in the local lending market. The market for refinance loans, for example, experienced dramatic changes over the years as homeowners responded to the opportunity for savings presented by record low interest rates in 1998 and 2001. Refinance applications more than doubled between 1997 and 1998 from 7,129 to 16,149. By 2001, at 20,758, the volume of refinance loan applications was almost three times the 1997 level and accounted for 61 percent of all home loan applications in the Springfield MSA. The volume of federally insured (FHA) and home improvement loan applications held constant between 1996 and 2001, while conventional loan application volume increased by 37.5 percent from 6,006 to 8,260.

The outcome of loan applications varied by type of loan. Most notably, the approval rate in the refinancing market fluctuated dramatically. Between 1998 and 2000 the approval rate for refinance loans dropped from 69 to 40 percent. Home improvement loans showed a consistently decreasing approval rate from 1996 to 2001 from 63 percent to 50 percent. Conventional loan approval rates showed slight change from year to year with a high of 83 percent in 2001 and a low of 78 percent in 1998. FHA loan approvals were consistently above 80 percent after an increase of 10 percent from 1996 to 1997.

The total value of all loans along with the average value of individual loans grew between 1996 and 2001. The total value of loans originated in the Springfield MSA increased 93 percent from roughly \$1.1 billion in 1996 to about \$2.2 billion in 2001. The total and average value of FHA, home improvement, and conventional loans increased steadily during this period. The average value of conventional home loans increased from \$108,108 in 1996 to \$116,185 in 2001. The exception to this trend was in the refinance market, which experienced multiple dramatic shifts in annual total value and a sharp dip in the average value of loans in 2000.

Following a national trend, the types of lending institutions that are doing business in the Pioneer Valley region also appear to be shifting. A comparison of loan application volumes for local lending institutions (defined as headquartered in the Pioneer Valley) and non-local lending institutions in 1997 and 2001 indicates that non-local lenders have increased their share of the lending market in the Springfield MSA. This development raises concern because of the notable differences in loan application outcomes between local and non-local institutions. Locally headquartered lenders had a loan approval rate of 85 percent in 1997 and 89 percent in 2001. In contrast, the loan approval rate for non-local institutions was significantly lower at 67 and 65 percent in 1997 and 2001, respectively. Because non-local lenders increased their control of the local market in 2001 and because they approved loan applications at a significantly lower rate, potential borrowers in 2001 had less access to institutions where they would be more likely to be approved for a home loan than they did in 1997.

#### Fair Lending

The analysis of fairness in lending is based on the assumption that significant differences in loan outcomes among racial and ethnic groups and across communities indicate unfair lending practices. However, it is difficult to distinguish differential lending practices based on justifiable measures of risk and ability to pay from patterns of discrimination based on race. An applicant's credit history, employment, debt-to-cash ratio, and collateral are some of the legitimate factors that influence the outcome of loan applications. Therefore, before we even consider an applicant's race or ethnicity, we already know that as an applicant's income increases so does his or her likelihood of receiving a loan.

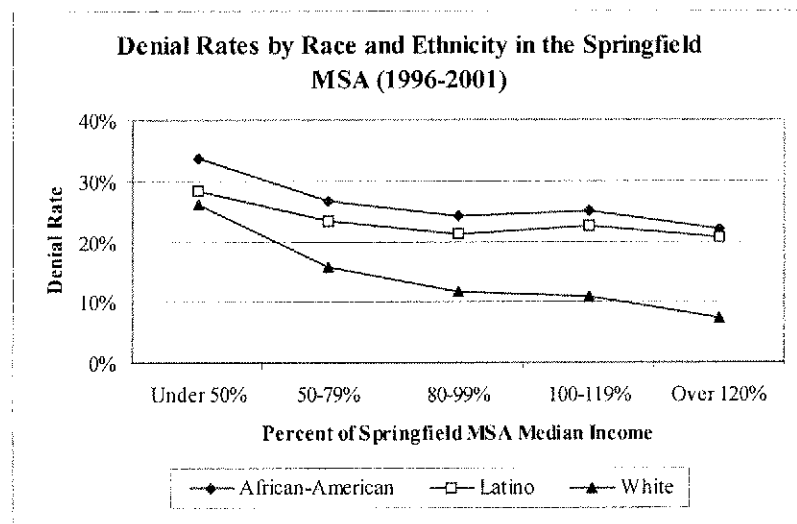
We used four methods to analyze the fairness of the lending market. These methods include: 1) surveying the volume of lending activity geographically, 2) analyzing loan outcomes by characteristics of loan applicants, 3) examining the market share of loan activity, and 4) comparing loan outcome ratios by census tract. A number of distinctive patterns in loan activity and outcomes in the lending market emerge from this investigation.

The first method compares the average number of loan approvals per year with the number of housing units in each census tract to measure the volume of lending activity. We found a striking

geographical pattern of loan activity throughout the region. Not only are census tracts with the lowest levels of loan activity concentrated in the urban core of Chicopee, Holyoke, and Springfield, but these census tracts are also concentrated within particular neighborhoods of the cities themselves. High levels of lending activity primarily appear in areas with the highest median incomes. This pattern is not surprising given the strong relationship between income and homeownership. However, people who live in communities composed predominantly of persons of color are disproportionately disadvantaged in the lending market because these communities also tend to have low median incomes.

Analyzing loan outcomes by applicant demographics uncovers perhaps the most striking finding of this study. Dramatic disparities emerge in the comparison of loan denial rates across racial and ethnic groups. As the data in the graph below demonstrates, African-American and Latino applicants consistently had higher loan denial rates than white applicants regardless of income level.

Even high-income African-American and Latino applicants, those with the greatest ability to pay, are denied home loans three times more often than high-income white applicants. In fact, Latino and African-American applicants of all income levels experience higher



denial rates than all but the very lowest income white applicants. The denial rates of African-American and Latino applicants also do not decrease at the same rate at which denial rates for white applicant's decline. Note that white applicants have approximately a 15 percentage point difference in denial rates between the highest and lowest-income applicants. Latino applicants, on the other hand, have less than a 10 percentage point difference.

Evaluating the market distribution of applications and denials by race and ethnicity provides a third method to consider differences in the lending market. The share of loan denials for white applicants is less than their share of all applications. More specifically, white applicants represent nearly 70 percent of all loan applications completed in the Springfield MSA, but they represent only 45 percent of all loan denials. Meanwhile, the opposite is true for African-American and Latino applicants, whose share of loan denials is more than their share of applications.

The final method for examining fairness involves calculating a loan approval ratio—the total number of loans approved per loan denied from 1996 to 2001—in order to compare census tract characteristics to home loan application outcomes. This comparison, further supported by statistical testing, provides an opportunity to identify those factors that may or may not influence loan dispositions. The results of a partial correlation statistical analysis show that the percentage of persons of color for a particular census tract has a significant inverse relationship with the approval ratio—as the percent of persons of color rises, the ratio of loans approved to loans denied drops. Statistical testing also controls for other variables that may simultaneously influence the approval ratio. In other words, when factors such as income, age, and housing stock are controlled, the racial and ethnic characteristic of a census tract is a significant predictor of loan outcomes.

#### Subprime Lending

Analysis of subprime lending is important in understanding the fairness of lending in the Pioneer Valley. Subprime lending is the practice of making higher interest rate loans to applicants who present additional risk to the lender. Between 1996 and 2001 the actual number of subprime lenders grew by 10, or 38 percent. Subprime lenders' share of applications grew steadily from 1996 to 2000 and then dipped in 2001. The percent of all lenders that were subprime, however, was about 25 percent at the beginning and end of the study period, indicating a similar rate of growth for prime and subprime lenders overall. Subprime lenders' share of refinance loan applications, their largest share of any single type of loan, did not follow the overall trend, but peaked in 1997 and 2000 when mortgage rates were higher than in previous years.

Subprime loan application outcomes and market shares of loan activity distinguish subprime and prime lending. Subprime approval rates are less than approval rates for all loans by at least 20 percentage points for every year of our study. In 2000, as the approval rate for all loans fell to a low of 59 percent, subprime approval rates increased to 37 percent after four years of decline starting from 41 percent in 1996. The subprime market share of loan originations was significantly less than that of subprime applications, indicating high loan denial rates from subprime lenders.

Refinance and conventional loan denial rates were consistently higher for subprime loans than prime loans. In 1997, the denial rate for all subprime conventional loan applications was 21 percent as compared to eight percent for prime conventional loan applications. The denial rate for all refinance subprime loans was 3.5 times that for prime lenders in 2001. Significant differences in denial rates also exist across income groups. In 1997, the denial rate for high-income applicants for subprime refinance loans (21%) was the same as for low-income applicants for prime refinance loans. In 2001, the denial rates for these same groups were higher, but remained similar, at 36 and 34 percent, respectively.

Significant patterns emerge when comparing census tracts with the highest and lowest subprime market share of loan activity, measured by the volume of subprime loan applications. Census tracts with high subprime shares of loan applications in 2001 had larger populations of persons of color, were younger, and had significantly lower incomes. Additionally, far less of the total housing stock was owner-occupied, and owner-occupied housing stock was of less value in census tracts with high subprime market shares. In 2001, all but one of the census tracts with the highest subprime market share of loan applications were located in Springfield, and the remaining census tract was in Holyoke. A similar trend of subprime loan activity concentrated in the urban core was also evident in 1997. In fact, a majority of the census tracts that had twice the average market share of subprime loan applications in 1997 also had twice the average in 2001.

The volume of subprime loan applications by census tract reflects, in part, where subprime lenders are actively marketing their product. As evidenced by the geographical concentration of subprime applications and the characteristics of these same areas, the data indicates that



subprime lenders may be targeting their efforts on low-income communities of color. The similarity of census tracts with high subprime loan activity in 1997 and 2001 suggests the ongoing nature of these practices over time.

In conclusion, while this study may bring up many more unanswered questions, the goal is to provide a detailed description and thorough analysis of the regional home lending market. Significant patterns emerge through the evaluation of lending statistics that raise important questions and challenges for the region's residents, financial institutions, and political and economic leaders. Understanding the impact that unfair lending practices have on the continued success and vitality of the Pioneer Valley is essential in moving toward solutions. Our hope is that this study will initiate discussion addressing these issues, and will contribute to ongoing efforts to make the Pioneer Valley a place everyone can call home.



## Table of Contents

<b>INTRODUCTION.....</b>	<b>3</b>
Goals and Questions.....	5
<b>METHODOLOGY.....</b>	<b>7</b>
Sources.....	7
Data Modifications.....	9
Definitions.....	10
Measures.....	13
<b>REGIONAL LENDING.....</b>	<b>15</b>
Volume.....	15
Outcomes.....	16
Value.....	17
Institutions.....	19
<b>FAIR LENDING.....</b>	<b>23</b>
Lending Activity Ratio.....	24
Denial Rates.....	27
Market Distribution.....	32
Approval Ratio.....	34
<b>SUBPRIME LENDING.....</b>	<b>45</b>
Subprime Volume.....	45
Subprime Outcomes.....	46
Subprime Value.....	47
Subprime Trends.....	48
<b>APPENDIX.....</b>	<b>57</b>



## INTRODUCTION

The Pioneer Valley Planning Commission (PVPC), as the designated regional planning agency for the Hampden and Hampshire county areas, strives to plan for and promote the continued growth and prosperity of businesses and residents across the region. As we began to orchestrate the revision of the region's economic development plan, the Plan for Progress, questions emerged region from discussions about urban investment regarding the fairness of the mortgage lending market in the Pioneer Valley. Concurrently, increasing national attention has been focused on this complex issue as a result of the proliferation of subprime lending in the 1990s and the increasingly negative impact of predatory lending.

Understanding and analyzing the “fairness” of mortgage lending is challenging for a number of reasons. A report published by the Urban Institute in 1999 identifies two characteristics of the lending market that contribute to the difficulty in measuring the prevalence of discrimination. The first characteristic is the complex series of stages that are involved in the lending process, which means that “discrimination could be occurring at any one or more of these, and it could take different forms at different stages.”<sup>1</sup> The second characteristics identified by the Urban Institute is the “legacy of economic inequality between whites and minorities that still exists today...[and] includes racial and ethnic differences in characteristics that influence the creditworthiness of any mortgage applicant—income, accumulated wealth, property values in minority neighborhoods, and credit history.”<sup>2</sup> Further complicating the issue is the challenge of distinguishing between justifiably different lending terms for borrowers with distinct risk factors and disparate treatment of borrowers based on characteristics unrelated to their credit worthiness.

A recent publication by the Federal Reserve Bank of Boston notes that “subprime lenders have been found to target people in particular communities and groups, regardless of their ability to

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<sup>1</sup> Turner, Margaret Austin and Felicity Skidmore. “Mortgage Lending Discrimination: A Review of Existing Evidence.” *The Urban Institute*. June 01, 1999. p. 3.

<sup>2</sup> *Ibid.*, p. 3.

qualify for better loans.”<sup>3</sup> While we found an abundance of national research, we found little analysis of the local lending market in the Pioneer Valley.

Equal treatment of loan applicants according to appropriate measures of loan worthiness is an important and vital component of the successful economic development of the Pioneer Valley. Homeownership provides individuals and families with economic opportunity and stability through the development of equity and credit, while also establishing their financial connection to the economic, social, and political life of the community. For example, the economic role of homeownership is significant because “the equity that has accumulated in homes is one of the largest components of U.S. household wealth.”<sup>4</sup> Thus, while buying a home is a personal choice, the benefits of homeownership and the fairness of the home buying process have ramifications for the entire region’s community and economic life. For these reasons, PVPC committed to conduct this study of the issue in the Pioneer Valley.

To the best of our knowledge, this study is the first of its kind to focus on the Pioneer Valley. We have developed the study with multiple target audiences in mind. Community and economic development organizations, the banking and lending industry, and local housing agencies will hopefully use the study to better understand lending market trends in the region and use that knowledge to plan for a better tomorrow. By presenting the data as clearly, objectively, and accurately as possible we hope to facilitate the ongoing process of improving the region’s lending industry to serve all of our residents fairly and make this region a place for all to call home.

This report is organized into a number of sections. Beginning with a brief discussion of the goals and questions that guided the study, the report continues with a detailed methodological discussion. The Methodology section reviews the sources, data modifications, definitions, and measures that were used in data analysis and that are discussed throughout the report. The Regional Lending section provides a synopsis of the lending market to demonstrate the activity

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<sup>3</sup> O’Sullivan, Stephen. “Predatory Lending: Attempts to Plug the Money Drain.” *Communities and Banking*. Federal Reserve Bank of Boston. Spring 2003. V.14, n. 2.

<sup>4</sup> Connor, Glenn B., Thomas A. Durkin and Charles A. Lockett. Federal Reserve Board Division of Research and Statistics. April 1998. Accessed on 08/15/03 at: <http://www.federalreserve.gov/Pubs/Bulletin/1998/199804lead.pdf>.

and trends that characterize the Springfield MSA over the six-year study period. The Fair Lending section investigates questions of fairness by comparing the volume of loan activity and analyzing loan outcomes among applicants with different demographic characteristics and across geographical areas. The final section, Subprime Lending, assesses changes in the subprime lending market and provides a detailed comparison of subprime lending in 1997 and 2001.

### Goals and Questions

The goal of this study is to analyze the Pioneer Valley region's lending market, detailing fair and subprime lending practices. The study examines lending market statistics throughout the Springfield Metropolitan Statistical Area (MSA) from 1996 through 2001.<sup>5</sup> This analysis includes overall trends in the region and patterns of lending by census tract. The following questions shaped our research:

- What changes occurred in the lending market between 1996 and 2001 in terms of loan volume, outcomes, and value?
- What is the market share of local banks and financial institutions compared to regional or national institutions?
- Do lending statistics indicate differential lending practices based on characteristics of borrowers or communities?
- What is the market share of subprime lenders and how has it changed between 1996 and 2001?
- Does the market share of subprime lenders change based on the characteristics or geographic location of the borrower?
- Are subprime lenders targeting certain groups of people or geographic areas in the Springfield MSA?

Simply stated, these questions reflect our goal to determine if similar applicants receive similar treatment. For example, while low-income applicants would be expected to have higher denial rates, justified by their lesser ability to pay, do all low-income applicants have similar loan outcomes regardless of other characteristics? Another important goal of this study is to gain a better understanding of the subprime loan market and to examine whether subprime lenders target certain groups more than others.



In providing a description and analysis of the lending market, we hope to contribute to the ongoing enhancement of mortgage lending practices, including the improvement of services to those groups or areas that have traditionally been underserved. Causal questions about why the lending market functions as it does are not addressed and conclusions about particular lending institutions are not made in this study.

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<sup>5</sup> The Home Mortgage Disclosure Act requires the collection and release of lending data for metropolitan areas only. Data is not available for areas of the Pioneer Valley outside of the Springfield MSA; therefore, this study only includes communities within the Springfield MSA.

## METHODOLOGY

### Sources

The two principal sources of data used throughout this study are the U.S. Census Bureau and the annual release of Home Mortgage Disclosure Act (HMDA) records by the Federal Financial Institutions Examination Council (FFIEC). The U.S. Census Bureau releases a wide variety of data based on surveys completed every ten years.<sup>6</sup> The 1975 HMDA requires lenders to annually report the number and disposition of home loan applications.<sup>7</sup>

The HMDA data used in this study include disposition statistics for federally insured (FHA), conventional, refinance, and home improvement loans for single to four family residences and demographic information about applicants.<sup>8</sup> The FFIEC releases the information to regional depositories where it is available to the public at no charge. PVPC is a local depository for HMDA data.

The FFIEC compiles aggregate lending data for all Metropolitan Statistical Areas (MSA) in the United States.<sup>9</sup> The Springfield MSA, however, does not include all of the towns of the Pioneer Valley Region. The map on the following page shows all of the census tracts in the Hampden and Hampshire county areas as well as the Whately/Sunderland census tract in Franklin County. The shaded portions of the map represents the Springfield MSA.<sup>10</sup> In the following three cases, a town or city is part of a census tract that is not entirely included within the Springfield MSA.

- Census tract 0408 includes Whately and Sunderland, but only Sunderland is part of the Springfield MSA.
- Census tract 8130 encompasses Blandford, Chester, Granville, Russell, and Tolland, but only Russell is part of the Springfield MSA.

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<sup>6</sup> Census information can be accessed by using the "American FactFinder" feature of the U.S. Census Bureau website at [www.census.gov](http://www.census.gov).

<sup>7</sup> 12 United States Code, §§ 2801-2810 (2003).

<sup>8</sup> Federal loan programs include Federal Housing Administration insured (FHA), Farm Service Agency or Rural Housing Service (FSA/RHS) and Veterans Administration guaranteed (VA). For simplicity, all Federal loan programs will be referred to as FHA in this report.

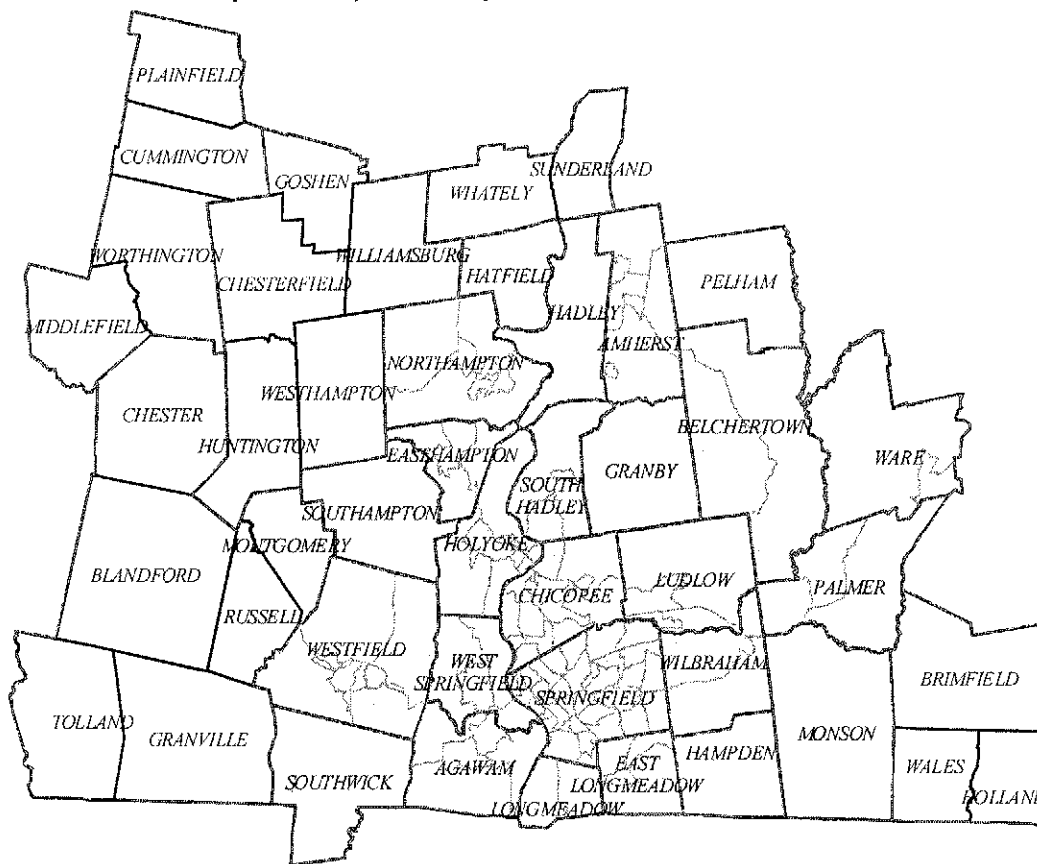
<sup>9</sup> Metropolitan Statistical Areas are defined by the U.S. Office of Management and Budget.

<sup>10</sup> The Springfield MSA includes Agawam, Amherst, Belchertown, Chicopee, Easthampton, East Longmeadow, Granby, Hadley, Hampden, Hatfield, Holyoke, Huntington, Longmeadow, Ludlow, Monson, Northampton, Palmer, Russell, South Hadley, Southampton, Southwick, Springfield, Sunderland, Ware, West Springfield, Westfield, Wilbraham and Williamsburg.

- Census tract 8226 includes Chesterfield, Goshen, Huntington, Westhampton, and Williamsburg, but only Huntington and Williamsburg are part of the Springfield MSA.

In these cases, the census data for the entire census tract were used with lending statistics for only the towns within the Springfield MSA. Demographic characteristics such as median income, race, ethnicity, household type, housing value, vacancy rate, housing units, and housing ownership for individual census tracts were taken from Summary File 3 of Census 2000.<sup>11</sup>

The Springfield Metropolitan Statistical Area (MSA)  
Compared to Hampden and Hampshire Counties with Census Tract Boundaries



The Federal Depository Insurance Corporation (FDIC), along with the Office of Thrift Supervision (OTS), annually collect data on deposit balances. The data for the Hampden and

<sup>11</sup> Summary File 3 is sample data derived from the long-form surveys that are provided to 1 in 6 households and are available at: [www.census.gov](http://www.census.gov).

Hampshire county areas were utilized in this report to determine where lending institutions are based and how many offices they have in the region.<sup>12</sup>

### Data Modifications

Aggregate lending statistics, released by the FFIEC, for the Springfield MSA were utilized to provide an overview of the activity and characteristics of the regional lending market. The FFIEC compiles aggregated data by income and race/ethnicity and these reports were used as a means to analyze of the “fairness” of the overall lending market.

At a more detailed level, the characteristics of individual census tracts were compared to HMDA lending statistics, also available by census tract. To make this comparison possible, however, a fraction of census tracts were manipulated. The manipulation of census tract data was necessary because HMDA data are based on census tract definitions from 1990, a number of which were changed for Census 2000. These changes were made with the intent of providing the most rational and accurate analysis possible given the constraints of the data.

The modifications included the consolidation of 8 census tracts into 4, the expansion of 7 census tracts into 14 and the renaming of 2 census tracts.<sup>13</sup> HMDA data were added together when two 1990 census tracts were merged for Census 2000 to create matching data. HMDA data were duplicated when 1990 census tracts were divided into two for Census 2000. The duplication of data slightly altered the picture of total lending activity in the individual census tract, but approval and denial rates remain unchanged. We felt this was the most accurate representation possible given the limitations of available data.

In addition to these changes, a small group of census tracts, which include the five colleges of Hampshire County, were omitted from our analysis. The vast majority of people in these census tracts are college students living on campus; therefore, very little household data are available for

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<sup>12</sup> The information is presented in market share reports and is available online at [www.fdic.gov](http://www.fdic.gov).

<sup>13</sup> Consolidated 1990 census tracts include: 8010 and 8011.01 into 8011.01; 8105 and 8106.02 into 8106.02; 8219 and 8219.02 into 8219.02; 8221 and 8222 into 8222. Expanded 1990 census tracts are: 8104.02 into 8104.03 and 8104.04; 8129.00 into 8129.02 and 8129.03; 8132.01 into 8132.04 and 8132.05; 8132.02 into 8132.06 and 8132.07; 8134.02 into 8134.03 and 8134.04; 8201 into 8201.01 and 8201.02; 8202.01 into 8202.03 and 8202.04. Census

these census tracts.<sup>14</sup> The remaining eight colleges in the Springfield MSA occupy only portions of a census tract and, therefore, were not omitted.

Two types of census data were also modified for the purposes of consistency and statistical analysis. While much of the census data are provided in the form of percentages, household income and median home values are not. Because uniformity is preferred for statistical analysis, these two variables were converted to percentages of the median Springfield MSA values. To calculate this percentage, the median household income of an individual census tract was divided by the Springfield MSA median household income.

$$\text{Percent of Springfield MSA Median Income} = \frac{\text{Census Tract Median Income}}{\text{Springfield MSA Median Income}}$$

The result represents what percentage the household income of a census tract is in relation to the MSA median. For example, the median household income of the Springfield MSA is \$40,740. Eighty percent of the median equals \$32,592 (\$40,740 multiplied by .8) and 120 percent of the median equals \$48,888 (\$40,740 multiplied by 1.2).

### Definitions

**Income.** The income data used to describe the MSA, census tracts, cities, and towns are from Census 2000. HMDA income data are presented as proportions of the MSA median. Since 1997 the FFIEC has compiled HMDA data using five income categories to describe borrowers income in relation to the MSA median: less than 50 percent, 50 to 79 percent, 80 to 99 percent, 100 to 119 percent and over 120 percent. For consistency and simplicity the categories will be referred to as follows: *low-income* indicates less than 50 percent of the MSA median, *moderate-income* specifies 50 to 79 percent of the MSA median, *middle-income* signifies 80 to 119 percent of the MSA median, and *high-income* corresponds to over 120 percent of the MSA median.<sup>15</sup>

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tracts renamed from Census 1990 to Census 2000 include: 8104.11 changed to 8104.14 and 8129.12 changed to 8129.01.

<sup>14</sup> Omitted census tracts include: 8212.00 (Mount Holyoke College), 8220 (Smith College), 8208.02 (Hampshire College), 8204 (University of Massachusetts) and 8206 (Amherst College).

<sup>15</sup> In 1996, the FFIEC grouped low and moderate-income applicants together within the single category of less than 80 percent of the MSA median. This data is omitted when necessary for consistency.

**Subprime Lender/Lending.** The U.S. Department of Housing and Urban Development (HUD) uses a multi-faceted approach to identify and categorize lenders as subprime. The list of subprime lenders that HUD provides to the public was used in this report.<sup>16</sup> Subprime loans are loans that carry higher interest rates for applicants who present additional risk to the lender. Throughout this report, non-subprime lenders are referred to as “prime” lenders. These categories are not exact as both prime and subprime lenders make prime and subprime loans. Despite this inconsistency, the study utilizes the HUD categorization of lenders because actual subprime loans are not differentiated in the HMDA data.

**Predatory Lender/Lending.** The subprime market is often considered to serve as an umbrella or breeding ground for predatory lending. Defining practices that are predatory, however, is challenging. Edward M. Gramlich, member of the Federal Reserve Board, noted in 2000 that “no law administered by the Board has a statutory or regulatory definition of predatory lending.”<sup>17</sup> Gramlich continues that predatory lending is interpreted broadly by some groups to mean loans with unfair terms according to the risk of lending to a particular applicant, while others interpret predatory lending narrowly as a set of specific practices by individual lenders. Loan terms that may be deemed predatory include balloon payments, negative amortization, prepayment penalties, mandatory arbitration, and certain insurance and financing plans. Sales practices related to predatory lending include manipulating borrowers to accept unaffordable or unusually high rates or fees through misinformation or aggressive sales tactics, taking unfair advantage of an applicants lack of understanding of loan terms, or making loans regardless of the borrowers’ ability to pay.

Predatory lending is not directly analyzed in this study because of the loose definition of and inability to identify predatory loans. Noting the role of the subprime market in predatory lending, however, is valuable. A HUD publication from June 2000 entitled *Curbing Predatory Home Mortgage Lending* identifies several factors that contribute to the presence of predatory lending

<sup>16</sup> A detailed report of the methodology to determine subprime lending was forthcoming from the HUD at the time of publication. Information and datasets were accessed on or before November 20, 2003 at: <http://www.huduser.org/datasets/manu.html>.

<sup>17</sup> Letter from Edward M. Gramlich, Member of the Board, Federal Reserve to the Honorable Phil Gramm Chairman of the Committee on Banking, Housing and Urban Affairs. April 28, 2000. Accessed at: <http://banking.senate.gov/docs/reports/prelend/fed.html> on July 24, 2003.

within the subprime market. The report concludes that subprime borrowers may be more easily manipulated because of past issues obtaining credit, an immediate need for funds, and insufficient competition in communities with high subprime lending activity. Many of these communities are low-income and minority communities.<sup>18</sup> Meanwhile, the companies that provide subprime loans are not subject to the same federal regulations and oversight as are most prime lenders. The fact that about 70 percent of loans originating from the subprime market have prepayment penalties highlights the pervasiveness of predatory practices.<sup>19</sup>

**Race and Ethnicity.** Racial and ethnic categories may be defined in various ways. For Census 2000, the U.S. Census Bureau modified the options available for individuals to identify their race and ethnicity by allowing two or more races to be chosen along with the separate yes or no categorization of Hispanic/Latino. The FFIEC uses such categories as American Indian/Alaskan Native, Asian/Pacific Islander, Black, Hispanic, White, Other, Joint and Race Not Available to describe the racial and ethnic characteristics of applicants. The Census Bureau defines Hispanic and Latino as equivalent groups. Because of the complexity and different application of terms used by various data sources, defining a single set of terms helps clarify whom this report intends to describe. The terms used in this report include white and African-American representing 'white, not Hispanic' and 'black, not Hispanic.' The term Latino is used for both Latino and Hispanic. The report also uses the terminology of 'persons of color' to refer to individuals who are not identified as 'white, not Hispanic.'

**Types of Lending Institutions.** For purposes of this study, local banks are defined as institutions that have more than half of their branch offices within the Springfield MSA according to FDIC data. All other lending institutions are referred to as non-local. The number of applications, originations, approvals and denials for individual lending institutions is available through HMDA data. Lending statistics were aggregated for individual local lending institutions and then subtracted from the lending statistics for the entire Springfield MSA. This calculation allowed for local and non-local comparison and analysis of loan activity and outcomes.

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<sup>18</sup> HUD-Treasury Task Force Report. *Curbing Predatory Home Mortgage Lending*. June 2000. p. 18. Accessed at: <http://www.huduser.org/publications/hsgfin/curbing.html> on September 12, 2003.

<sup>19</sup> Mortgage Information Corporation Loan Performance System, 1999 Q3 cited in: *Curbing Predatory Home Mortgage Lending*. HUD-Treasury Task Force on Predatory Lending. June 2000. p. 93.



Measures

**Lending Activity Ratio.** To investigate and understand the volume of lending activity across census tracts of different size, we compared the average number of loans approved per year with the number of housing units in each census tract. The result, referred to as the Lending Activity Ratio (LAR) throughout this report, indicates the average annual number of approvals per housing unit, by census tract. The ratio is determined using the following method. The average number of approvals per year from 1996 through 2001 is divided by the number of housing units in each individual census tract based on the Census 2000 definition. The following equation represents this calculation:

$$\text{Lending Activity Ratio} = \frac{(A_{1996} + A_{1997} + A_{1998} + A_{1999} + A_{2000} + A_{2001})/6}{H}$$

A = Number of loan approvals

H = Number of housing units

For example, a lending activity ratio of .05 means that there was an average of one loan approved per year for every 20 housing units (1:20) or five loans approved per year for every 100 housing units.

For those census tracts that were expanded for Census 2000, an additional modification was necessary to compute the lending activity ratio, because the duplication of the HMDA data, in this case, led to inaccurate lending activity ratios. The number of approvals, therefore, was calculated as a proportion of the number of housing units between the two census tracts, yielding the same LAR for both census tracts.

**Approval Ratio.** We also created an aggregate ratio indicating the number of approvals per denial by individual census tract from 1996 through 2001. The following equation represents the calculation of the approval ratio:

$$\text{ApprovalRatio} = \frac{A_{1996} + A_{1997} + A_{1998} + A_{1999} + A_{2000} + A_{2001}}{D_{1996} + D_{1997} + D_{1998} + D_{1999} + D_{2000} + D_{2001}}$$

A = Number of Approvals

D = Number of Denials

This Approval Ratio indicates how many loan applications were approved for each loan application that was denied. For example, an approval ratio of 6.5 signifies that, from 1996 through 2001, 6.5 loans, on average, were approved for every loan that was denied.

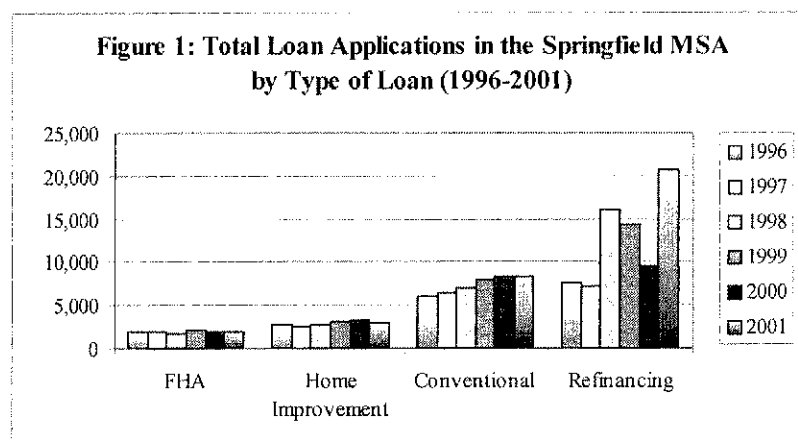
The approval ratio was used for statistical analyses. Correlation tests, conducted using statistical software (SPSS), identified the statistical significance of patterns in lending by measuring the relationship between multiple independent variables and testing their influence on the dependent outcome variable. The dependent variables used include the approval ratio for all loans and the approval ratio for refinance loans. The independent variables included in our correlation calculations are: the percent of the populations that is white, not Hispanic; household median income as a percent of the Springfield MSA; the non-seasonal housing vacancy rate; median home values as a percent of the MSA median; and, the percent of owner-occupied housing.

## REGIONAL LENDING

Between 1996 and 2001, across the country, the home mortgage industry experienced remarkable fluctuations as a result of changes in the economy and record-breaking low interest rates. The impact of these macroeconomic shifts was evident in the Springfield Metropolitan Statistical Area (MSA). Refinance loan volume fluctuations, for example, were markedly larger than variations in other types of loans, reflecting the response of homeowners to the opportunity presented by low interest rates. The goal of this section is to provide an overview of the market as a context for understanding the subsequent discussion of fair and subprime lending. Various aspects of the market that are considered include the volume, outcome, and value of loan activity along with the characteristics of lending institutions.

### Volume

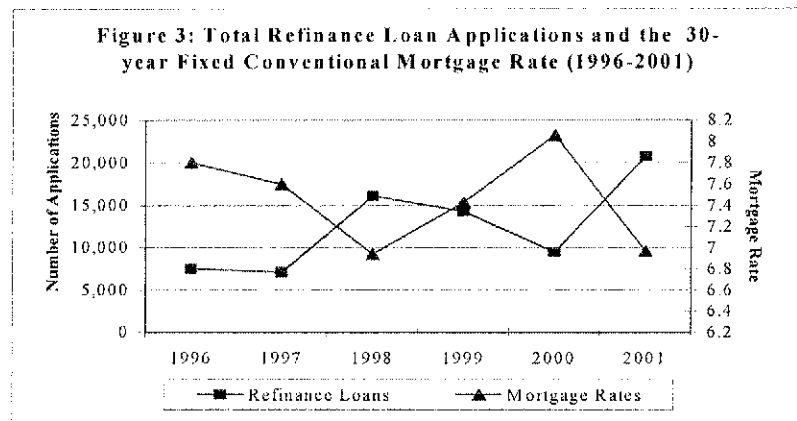
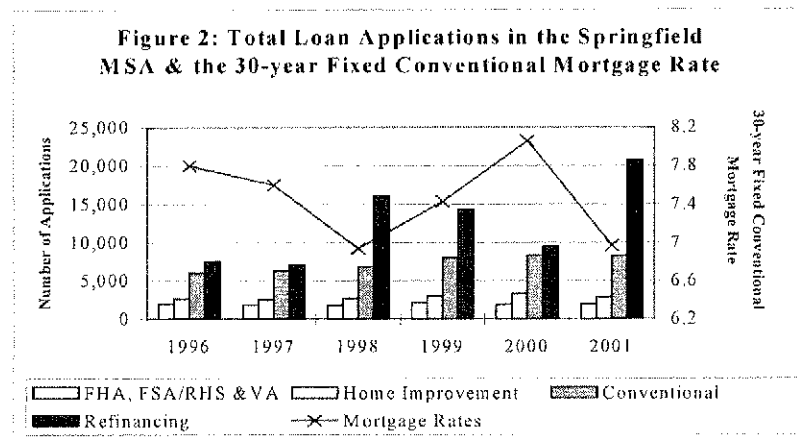
Figure 1 illustrates the number of loan applications completed for each type of loan between 1996 and 2001. Application statistics indicate how the demand for lending, represented by the number of people completing the application



process, has changed over time. Conventional loan applications steadily increased by 37.5 percent from 6,006 in 1996 to 8,260 in 2001. During this period, FHA and home improvement loan application numbers demonstrated stable levels of demand.

The number of applications for refinance loans, however, experienced drastic changes over the six years studied. Refinance applications more than doubled between 1997 and 1998 from 7,129 to 16,149. By 2001, at 20,758, the volume of applications was almost three times the 1997 level and accounted for 61 percent of the total number of home loan applications.

The total number of applications filed by year and by type of loan is compared to the fixed 30-year conventional mortgage rate in Figure 2. In 1998 and 2001, the mortgage rate was at record-breaking low levels of just under seven percent. The refinance loan market was most responsive to these changes. As mortgage rates hit record lows, the number of refinance loan applications increased dramatically (Figure 3). Predictably, low interest rates produced high demand for refinance loans as homeowners took advantage of the opportunity for long-term savings.



### Outcomes

Approval rates by type of loan, as seen in Figure 4, indicate how many of those who applied for loans were offered the opportunity to borrow money. As with application volume, the most dramatic change over time in approval rates is evident in the refinance lending market. Between 1998 and 2000 the approval rate for refinance loans dropped from 68.9 to 39.6 percent. This occurred at a time when the number of applications was falling. As fewer people were applying for refinance loans, even fewer applications were being approved. The rise in mortgage rates may in part explain this trend, as borrowing became more expensive. Home improvement loans showed a consistently decreasing approval rate from 1996 to 2001, while conventional loan

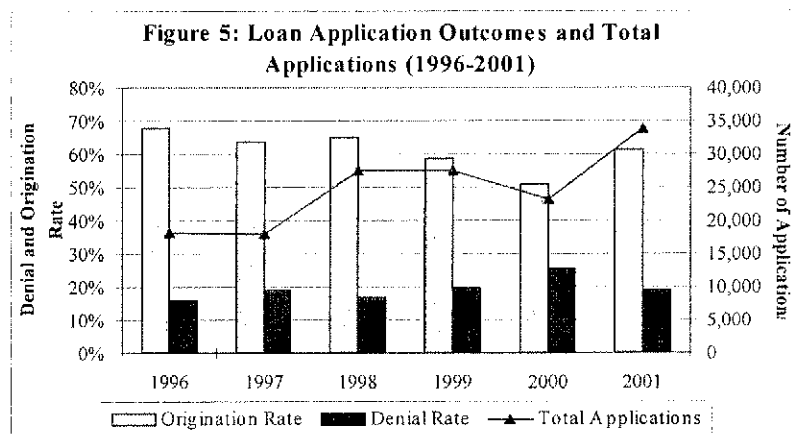
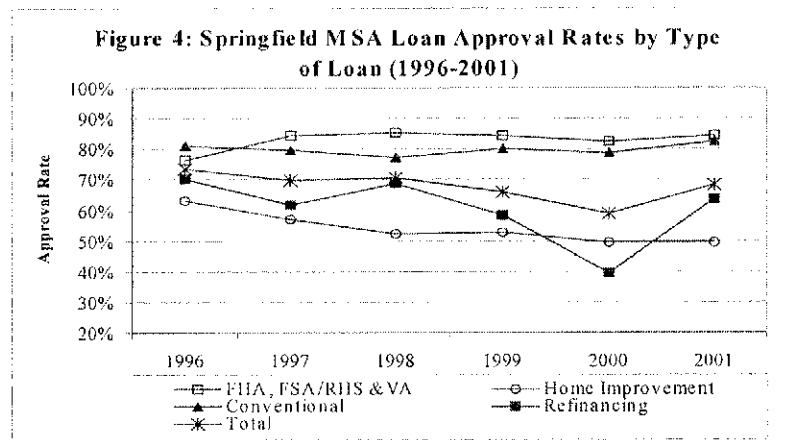
approval rates held steady. FHA loan approvals were consistent after a ten percent increase from 1996 to 1997. The high approval rates for federally insured loans (FHA) are likely a result of the safeguards built into these programs and demonstrate their success.

Loan outcomes and the total number of applications

are compared in Figure 5. The origination rate represents the percentage of applications that were approved by the lending institution and accepted by the applicant. The denial rate indicates how many applications were denied loans by the lending institutions out of the total number of loan applications that were completed.

These rates are compared with the total number of applications further demonstrating lending market supply and demand trends within the Springfield MSA. The origination rate steadily declined from nearly 70 percent in 1996 to about 50 percent in 2000, after which it jumped to about 60 percent in 2001.

The significant dip in the origination rate coincided with a decrease in demand (and higher mortgage rates) in 2000. The denial rate remained below 20 percent every year except 2000.



### Value

As the volume of applications and originations increased, so did the total value of loans over time. Figure 6 illustrates the total value of loans originated by type of loan in the Springfield

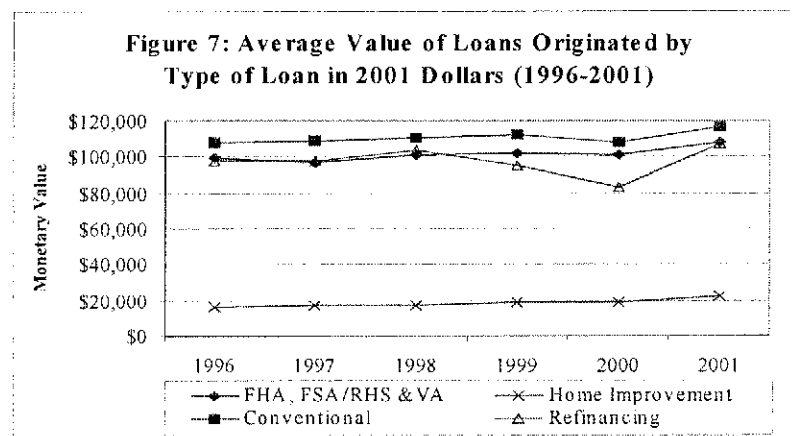
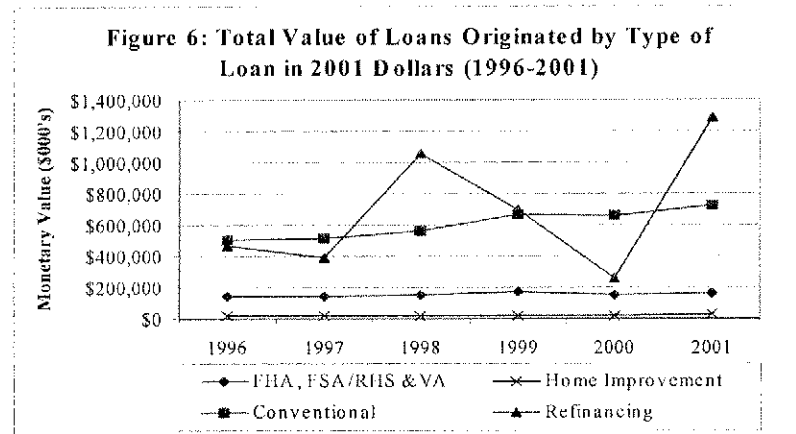
MSA (dollar values are adjusted for inflation into 2001 dollars). Between 1996 and 2001, the total value of loans originated grew 93 percent from \$1.14 billion in 1996 to \$2.19 billion in 2001.

Part of the tremendous growth in the value of loans can be attributed to the dramatic increase in refinance loan activity. The total value of originated refinance loans increased 174 percent from \$466 million in 1996 to \$1.2

billion in 2001. The total value of refinance loans hit a low of \$256 million in 2000 as mortgage rates rose and refinance approval rates dipped. Conventional loans experienced more modest, but consistent growth with a 42 percent change over the six years from \$508 million in 1996 to \$724 million in 2001.

FHA and home improvement loans represent a smaller proportion of loan activity and, therefore, account for a fraction of the total value of loans originated. The value of FHA loans increased by 18 percent from \$139 million in 1996 to \$164 million in 2001 reaching its highest total value of \$176 million in 1999. Home improvement origination values experienced the smallest percent change of seven percent with the lowest total value of \$19 million in 1998 and the highest total value of \$25 million in 2001.

Figure 7 represents the average value of individual loans by type of loan (adjusted for inflation into 2001 dollars). While the



average value for all types of loans increased from 1996 to 2001, refinance loans experienced the most variation in value over time. In 2000, when borrowing money was more expensive, the average value of refinance loans dropped to \$83,540, the lowest of the six-year period. Conventional loans consistently had the highest average value from \$108,108 in 1996 to \$116,185 in 2001. FHA loans averaged a value of \$99,244 in 1996 and steadily increased to \$107,637 by 2001. The average value of home improvement loans increased from \$16,047 to \$22,560 over the six-year period.

### Institutions

Changes in lending market trends also extend to the types of lending institutions that were doing business in the Springfield MSA. Comparing loan application volumes and outcomes for local and non-local lending institutions for 1997 and 2001 further enhances our understanding of the lending market as a whole.

Table 1 presents data on the actual number of applications and originations by type of lending institution. From 1997 to 2001, local institutions experienced a 54 percent increase in the volume of loan applications and a 60 percent increase in originations. Non-local institutions, however, had significantly larger increases in volume of both applications and originations with 120 and 109 percent changes respectively.

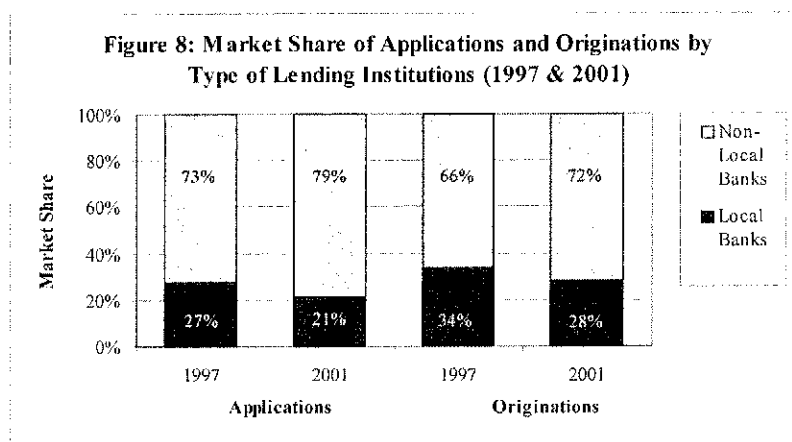
**Table 1: Volume of Loan Activity by Type of Institution**

	1997	2001	% Change
Local Lenders			
Applications	4,206	6,498	54%
Originations	3,485	5,573	60%
Non-Local Lenders			
Applications	11,118	24,456	120%
Originations	6,746	14,107	109%

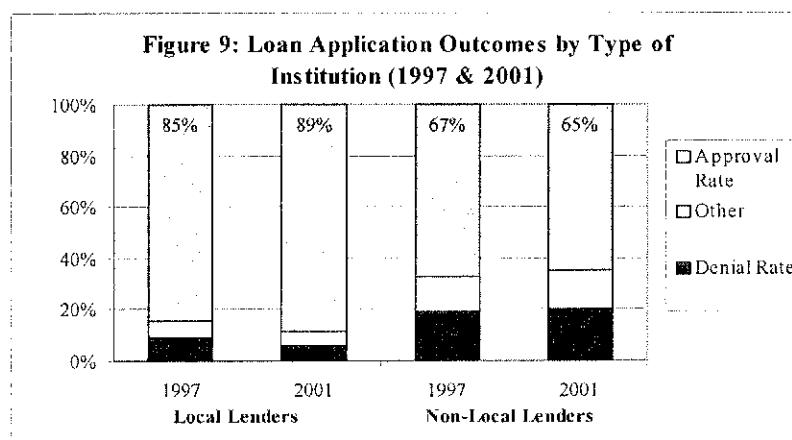
Figure 8 represents the local and non-local lenders' market share of applications and originations in 1997 and 2001. Local institutions had a larger share of originations than applications in both 1997 and 2001. Non-local institutions, however, increased their majority share of lending activity. From 1997 to 2001, non-local lenders' market share of applications increased from 73



to 79 percent and their market share of originations increased from 66 to 72 percent. In other words, in 1997, about one in four people hoping to secure a home loan submitted an application to a locally headquartered lending institution. In 2001, only one in five applicants submitted a loan application to a local institution.



Concern over the type of lending institution arises from the notable differences in loan application outcomes between local and non-local lenders. Figure 9 facilitates a comparison of approval and denial rates for local and non-local institutions. From 1997 to 2001, local banks increased their approval rates from 85 to 89. This increase came at the same time that local banks were losing market share (see Figure 8). Meanwhile, approval rates for non-local institutions remained substantially lower than for local institutions. The non-local lending approval rate decreased slightly from 67 to 65 percent. In 2001 the denial rate for non-local institutions was 20 percent, more than three times higher than the 6 percent denial rate for local lenders. In comparing statistics from 1997 and 2001, local lenders had less market share of applications and higher approval rates. This trend indicates that potential borrowers, in 2001, had less access to the institutions where they were most likely to be approved for a home loan than in 1997.



A number of trends and patterns emerge from analyzing the lending market and lending institutions in the Springfield MSA. Refinance loan volume, outcomes, and values fluctuated from 1996 through 2001 in response to dramatic changes in mortgage rates. While refinance loan applications and values hit record highs at the end of the study period in 2001, conclusions based on the 2001 levels of activity would not be prudent. Conventional loan activity, on the other hand, reflects a stable and consistently growing market. The much smaller FHA and home improvement lending markets maintained steady levels of activity and value. Non-local lenders increased their control over the regional market, which is concerning because non-local lending institutions deny applicants more often than local lending institutions.

Taken as a whole, the regional lending market grew in volume and value which is a positive indicator for the Pioneer Valley. Delving further into the details of lending practices, however, is essential in evaluating whether this growth has offered equal opportunity to all of our residents.



## **FAIR LENDING**

The Fair Housing Act of 1968 established a series of regulations to protect disadvantaged groups of people from housing discrimination.<sup>20</sup> As it relates to mortgage lending, prohibited activities include refusing to make or purchase a loan, refusing to provide loan information, or setting different terms or conditions for a loan based on race, color, national origin, religion, sex, familial status, or disability.<sup>21</sup>

Unfortunately, patterns of differential treatment in lending still exist some thirty-five years after this legislation passed as, “widespread evidence indicates that minority homebuyers are less likely than whites to obtain mortgage loans and, if they are successful, receive less favorable loan amounts and terms.”<sup>22</sup> By reviewing lending data over a six-year period, this study compares and analyzes statistics to determine if variations exist by race and ethnicity, using geographical differences to further understand the issue. Significant differences in loan outcomes among racial and ethnic groups and across communities are an indicator unfair lending practices.

Before analyzing the fairness of lending in the Springfield MSA, it is important to address some of the realities of the home lending process that would hold true even if lending practices were completely fair. First, denial rates for home mortgages will decrease as an applicants income increases based on the assumption that an applicant’s ability to pay, most often measured by income, is the single most influential factor in the loan approval process. Second, apart from income, other factors such as credit history or debt are legitimately relevant to obtaining a loan. Third, issues of housing stock—particularly age and condition—may influence the differences in denial rates between neighborhoods and communities.

This analysis of “fairness” includes surveying loan activity geographically, analyzing loan outcomes by characteristics of loan applicants, examining market share of loan activity, and comparing loan outcome ratios by census tract. Statistical analyses serve as an additional guide

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<sup>20</sup> 42 United States Code §§ 3601-3607 (2003).

<sup>21</sup> Additional information is available at <http://www.hud.gov/offices/fheo/FHLaws/index.cfm>.

<sup>22</sup> U.S. Department of Housing and Urban Development Office of Policy Development and Research. “All Other Things Being Equal: A Paired Testing Study of Mortgage Lending.” Final Report. April 2002.

to measure the influence of different factors on the probability of loan application outcomes. Statistical test results are presented to further support our conclusions about the regional lending market.

The data presented in this section demonstrate distinctive patterns in loan activity and outcomes across the lending market. Applicants of different races, ethnicities, or incomes are denied loans at vastly different rates. The most noticeable patterns include the following:

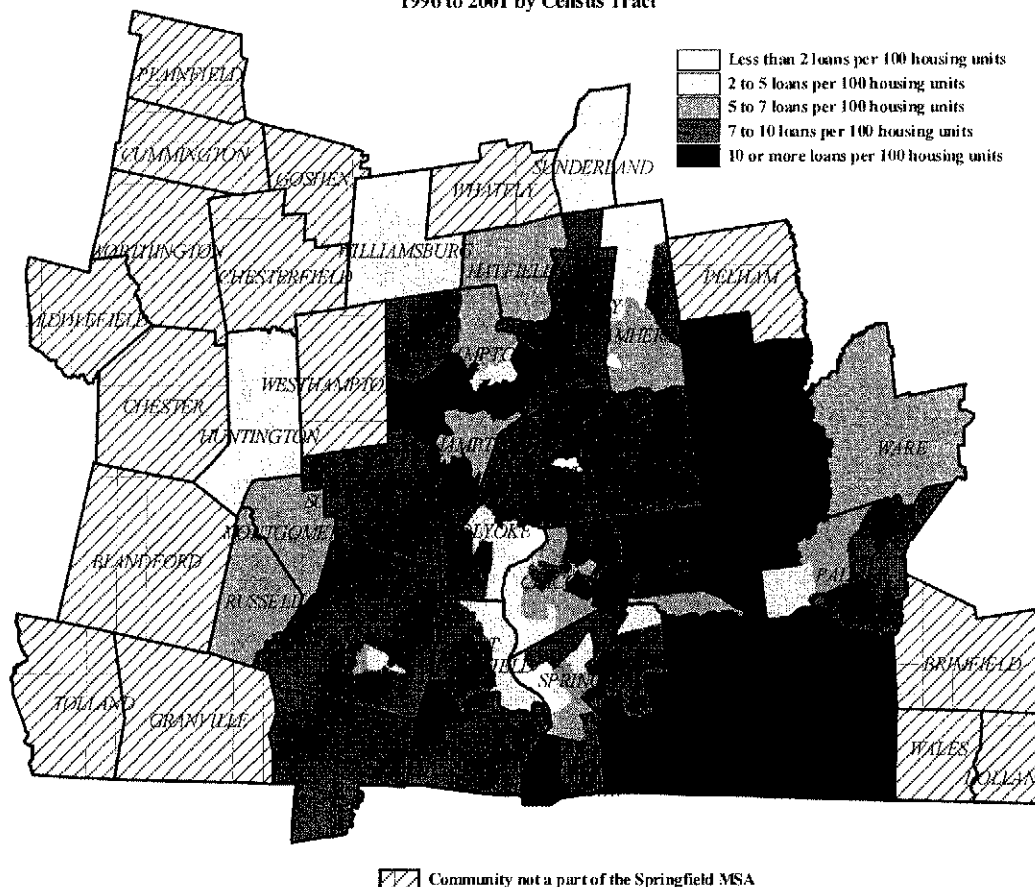
- Low rates of loan activity are geographically concentrated within the region's urban areas.
- Denial rates vary widely based on the race and/or ethnicity of the applicant regardless of income.
- The denial rates of white, Latino, and African-American applicants have different patterns and trends across income groups.
- The market distribution of applications and denials varies by race and/or ethnicity.
- Low rates of loan approvals as compared to loan denials are geographically concentrated within the region's urban areas.

#### Lending Activity Ratio

The lending activity ratio (LAR) compares the number of loans approved to the number of housing units within a particular geographical area. This ratio links the average annual volume of approved loans to the quantity of housing in one area, facilitating an evaluation of how lending activity in different areas compares to other areas in the region. In this study, lending data from 1996 to 2001 is used to calculate an average annual number of loans to compare to the number of housing units reported in Census 2000.

Map 1 displays the LAR by the 2000 census tract definitions and indicates that lending activity varied widely throughout the Springfield MSA. According to the data, all of the census tracts that have the lowest lending activity ratio (less than 2 loans annually per 100 housing units) are within the urban core of Springfield, Chicopee, and Holyoke. This low lending activity is further

**Map 1: Average Annual Number of Home Loans per 100 Housing Units  
1996 to 2001 by Census Tract**

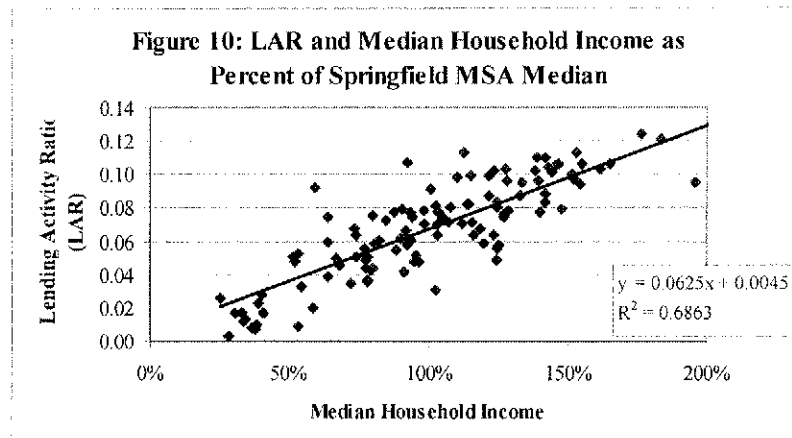


concentrated within the cities themselves. Six adjacent census tracts in the North End, Metro Center, and South End of Springfield and a group of four census tracts in downtown Holyoke account for 10 of the 11 census tracts with the lowest lending activity ratio.

Communities with the highest lending activity ratio (10 or more loans per 100 housing units annually) include Longmeadow, Northampton, East Longmeadow, Hampden, Monson, Wilbraham, Belchertown, Ludlow, Easthampton, and Agawam. For some of these communities, significant population growth during the period of this study contributed to the high lending activity ratio. For example, Belchertown is one of the fastest growing communities in the Pioneer Valley. Considering the large number of new homes that have recently been developed, the high

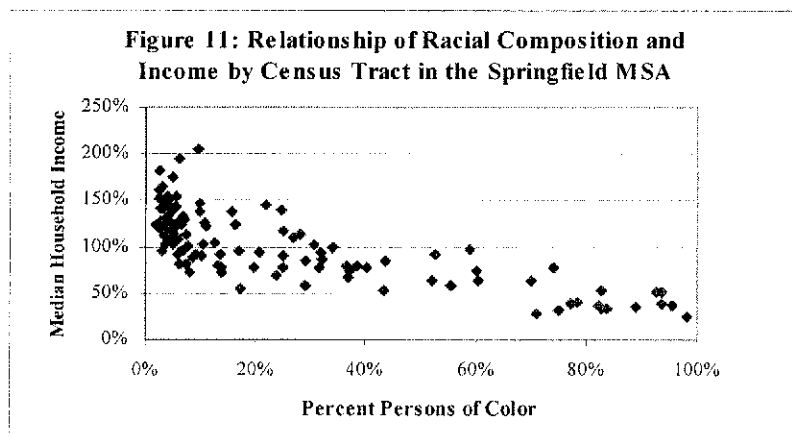
level of loan activity in Belchertown is not surprising. Three census tracts in Springfield (two in Sixteen Acres and one in Pine Point) and one census tract in Chicopee (the Burnett Road neighborhood) also had the highest lending activity ratio of 10 or more loans per 100 housing units.<sup>23</sup>

The pattern and concentration of lending activity in the Springfield MSA can largely be attributed to differences in household income, where communities of higher income have higher lending activity ratios. The



relationship between household income and loan outcomes is predictable and does not, by itself, indicate a lack of fairness. Figure 10 is a bivariate scatterplot of the LAR and median household income for every census tract in the Springfield MSA. The upward sloping pattern of dots—demonstrating a positive linear relationship—indicates that as household income increases, so does the amount of lending activity. The R-square coefficient, also shown in Figure 10, equals 0.69, which indicates a fairly strong relationship between household income and the LAR.<sup>24</sup>

Figure 11 demonstrates the relationship between the median household income



<sup>23</sup> In some cases, large numbers of housing units in multi-unit apartment buildings, not captured in HMDA data, may explain low lending activity ratios.

<sup>24</sup> The R-squared value shown in Figure 10 indicates how well the relationship is explained by the linear model ( $y = mx + b$ ). According to this model, the independent variable (x-axis) influences the outcome of the dependent variable (y-axis). The closer the R-squared value is to one, the better the model explains the relationship.

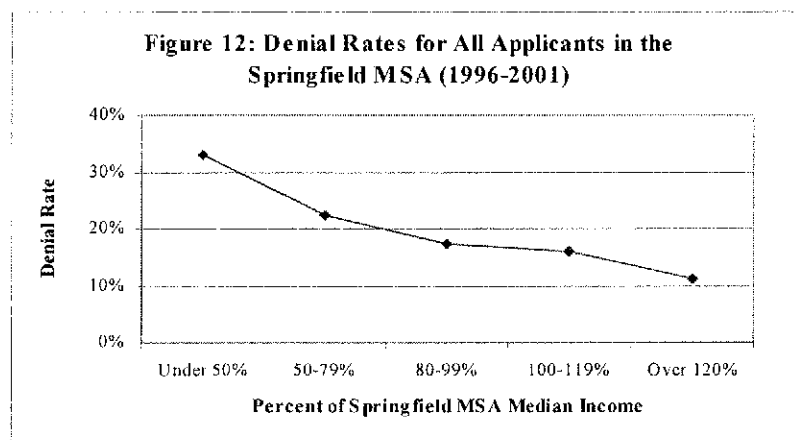


of census tracts in the Springfield MSA and their racial composition. During the study period, census tracts with high percentages of persons of color tended to have lower median incomes, while census tracts with the highest median incomes were predominantly white. This pattern of residential segregation by race and income is important to consider when analyzing the activity of lending institutions. Because the LAR is lower in census tracts with lower median incomes, and because persons of color are concentrated in lower income neighborhoods, persons of color live in communities with disproportionately low lending activity. While less lending activity in communities of lower incomes may be justified because potential borrowers have less ability to pay, this pattern limits lower income individuals' and families' access to homeownership and the economic benefits it provides.

### Denial Rates

Studying the rates of loan application denials facilitates an analysis of the fairness of lending practices in the region by race and ethnicity. The denial rates discussed in this section include the statistics for all conventional, refinance, and FHA loans and are examined by race, ethnicity, and income to determine if differences exist across these groups.<sup>25</sup>

Figure 12 illustrates the denial rate for all applicants from 1996 to 2001 and demonstrates the predictable pattern that as income increases denial rates decrease. Overall, denial rates decrease steadily from 33.1 percent



for low-income applicants to 11.2 percent for high-income applicants. The most significant difference in denial rates was between the low-income group, at 33.1 percent, and the moderate-

<sup>25</sup> Home improvement loans are excluded from this analysis because they are substantially different than the other home loan products and they do not address an applicant's ability to purchase a home.

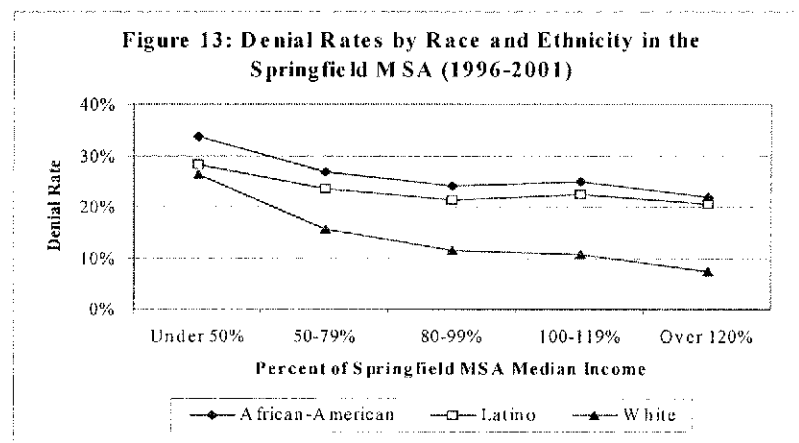
# EXHIBIT C

## (Part 2)

income group, at 22.3 percent. Applicants of the two middle-income categories (80 to 99% and 100 to 119%) had the most similar denial rates of 17.3 and 16.0 percent, respectively.

Upon closer inspection, however, noticeable differences emerge in the lending statistics for applicants of different racial and ethnic groups. Figure 13 represents the denial rates for different racial and ethnic groups categorized by income.<sup>26</sup> As the data in Figure 13 show, African-American and Latino applicants had consistently higher denial rates than white applicants, regardless of income. High-income Latino and African-American applicants were denied home loans at roughly three times the rate of high-income white applicants. High-income white applicants had an average denial rate of 7.4 percent while high-income African-American and Latino applicants had average denial rates of 22.0 and 20.6 percent, respectively.

Denial rates for middle-income African-American and Latino applicants were approximately twice as high as white applicants with similar incomes. In the 80-99 percent income group, the denial rate was about 11.6 percent for



white applicants, 21.3 percent for Latino applicants, and 24.2 percent for African-Americans. At 100-119 percent of median income, white applicants were denied at a rate of 10.8 percent, Latino applicants at 22.6 percent, and African-American applicants at 25.0 percent.

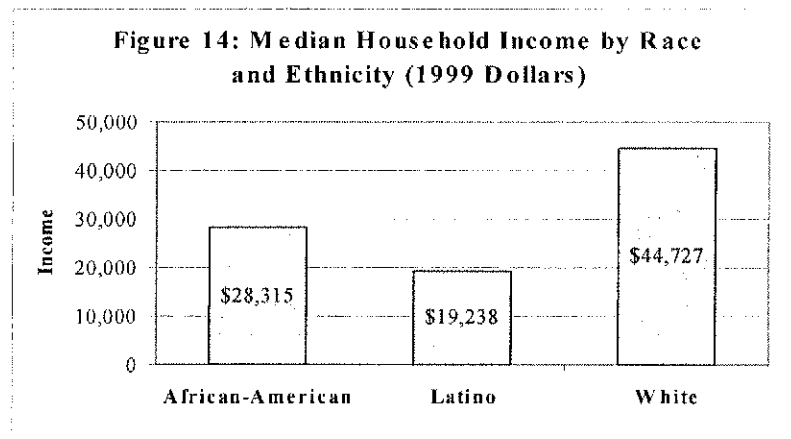
Latino and African-American applicants of *all income groups* experienced higher denial rates than all but the lowest income white applicants. Moderate-income white applicants had a denial rate of 15.7 percent as compared to 22.0 percent for high-income African-American applicants and 20.6 percent for high-income Latino applicants.

<sup>26</sup> A complete table of data on applications and denials that are used to calculate denial rates can be found in the Appendix.

White applicants with different incomes also experienced more variation in loan outcomes than did African-American and Latino applicants with different incomes. In other words, denial rates for African-American and Latino applicants were more similar regardless of income than for white applicants. Denial rates for white applicants changed from 26.2 percent (low-income) to 7.4 percent (high-income), a 19 percentage point difference from lowest to highest income. Latino applicants experienced the least variation in denial rates with about an 8 percentage point change from 28.2 percent (low-income) to 20.6 percent (high-income). African-American applicants had the highest denial rates of any group ranging from 33.8 percent (low-income) to 22.0 percent (high-income) with a modest 12 percentage point difference from lowest to highest income applicants.

Despite the fact that, as a group, African-Americans did not have the lowest median household income according to Census 2000 data, African-American applicants consistently had the highest denial rates. Figure 14 provides median household income by race and ethnicity for the

Springfield MSA. Latino households have a significantly lower median income (\$19,238) than African-Americans (\$28,315), yet African-Americans consistently have the highest loan denial rates. These findings merit



further investigation to determine why African-American applicants have uniquely negative outcomes in the home lending process.

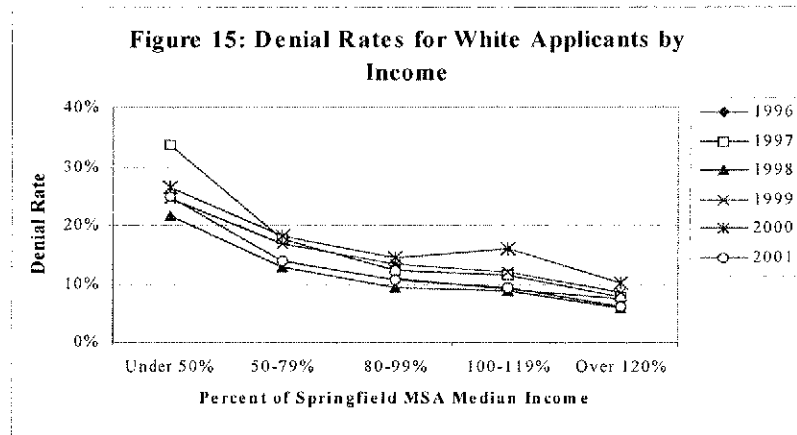
The FFIEC also provides aggregate data by race and ethnicity regarding the reason an application was denied.<sup>27</sup> Some of the reasons for denial include debt-to-income ratio,

<sup>27</sup> HMDA Aggregate Table 8-2: Reasons for denial of applications for conventional home-purchase loans, 1 to 4 family homes, by race, gender and income of applicant. HMDA Aggregate Table 8-3: Reasons for denial of applications for refinance loans on 1 to 4 family homes, by race, gender and income of applicant.

employment history, credit history, collateral and insufficient cash. In surveying this data, we did not find any significant difference by race or ethnicity in the reported reasons for loan denials. Therefore, the data do not reveal an explanation of differences in denial rates based on legitimate measures of loan worthiness, such as credit or employment history, that could explain differences among applicants with similar incomes and different racial or ethnic backgrounds.

A more detailed look at yearly denial rates for individual racial and ethnic groups provides additional insight into lending practices in the Springfield MSA. The following three graphs (Figures 15, 16, and 17) illustrate the denial rates of white, African-American, and Latino applicants for each of the six years of the study.

Figure 15 represents the denial rates for white applicants by income from 1996 to 2001. As the income of white applicants increases, their denial rates consistently decrease, as demonstrated by the downward sloping curves

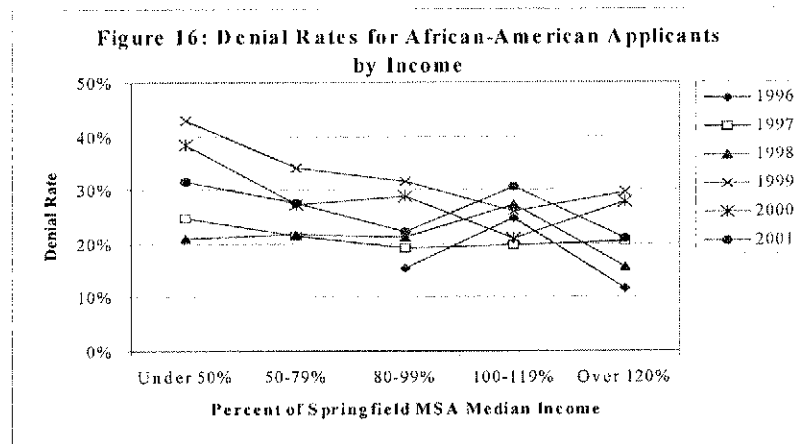


of Figure 15. The highest denial rate in any single year for white applicants was 34 percent in 1997 for low-income applicants. The lowest denial rate was 5.9 percent for high-income white applicants in 1998. Denial rates for high-income white applicants never reached above 10.2 percent and the average denial rate was 7.6 percent. Meanwhile, the denial rates for low-income white applicants varied from 21.6 to 33.5 percent with an average denial rate of 26.2 percent.

Figure 16 illustrates the data on denial rates for African-American applicants by income from 1996 to 2001. Unlike aggregate data for African-American applicants from 1996 to 2001 and yearly data for white applicants, the denial rates for African-American applicants did not consistently decrease with increases in income. The highest denial rate for African-American applicants was 42.8 percent (low-income) in 1999 and the lowest denial rate was 11.6 percent

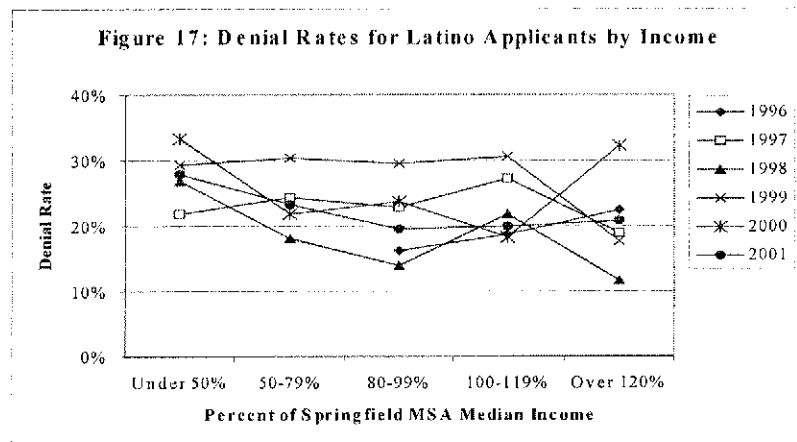
(high-income) in 1996.

African-Americans with 100-119 percent of median income experienced a denial rate between 19.7 and 30.5 percent, while white applicants with similar income had a denial rate between 9.1 and 15.9 percent from 1996 to 2001.



The denial rate for high-income African-American applicants reached its highest point in 1999 at 30 percent, four times the average denial rate and three times the highest denial rate for high-income white applicants. The lowest denial rate for high-income African-Americans was 11.6 percent (1996). In four of the six years of this study, denial rates for high-income African-Americans were 20 percent or more.<sup>28</sup>

While Latino denial rates were lower than those of African-American applicants, they were still higher than white applicants, as expressed earlier in Figure 13. The data presented in Figure 17 includes yearly denial rates



for Latino applicants by income. Resembling trends in the denial rates of African-American applicants, Latino applicants did not consistently experience lower denial rates as their income increased.

<sup>28</sup> The percent of African-American and Latino applicants, categorized as high income, is disproportionately smaller than the percent of African-American and Latino applicants in general. The implication of this discrepancy means that the sample size of high-income African-American and Latino applicants is smaller and may cause anomalies in the denial rate statistics for high-income African-American and Latino applicants.

The variation in denial rates for low-income Latino applicants ranged from 21.9 to 33.3 percent, nearly equivalent to those for white applicants. High-income Latino applicants, on the other hand, had much higher denial rates than white applicants ranging from 11.6 percent in 1998 to a high of 32.3 percent in 2000.

The data on Latino applicants is perhaps the most striking in 2000 when low and high-income Latino applicants had only a single percentage point difference in denial rates (33.3 and 32.3 percent, respectively). The 32.3 percent denial rate is the highest in any single year of all high-income applicants of any group. Latino denial rates for 1999 are also atypical, as denial rates do not decline significantly for any income group except the highest.

Overall, the data available through the Home Mortgage Disclosure Act strongly indicates differential patterns in mortgage lending by income and race in the Springfield MSA. While the validity of different lending outcomes for applicants with higher or lower incomes is justifiable, the same cannot be said for race and ethnicity. The data demonstrate significant differences in denial rates of all African-American and Latino applicants. The differences are further highlighted when denial rates are categorized by race or ethnicity and income. Other factors that are not easily measured, such as credit history or amount of savings for a down payment, may account for some differences, but they are unlikely to explain such dramatic patterns. These findings are disconcerting and warrant attention.

#### Market Distribution

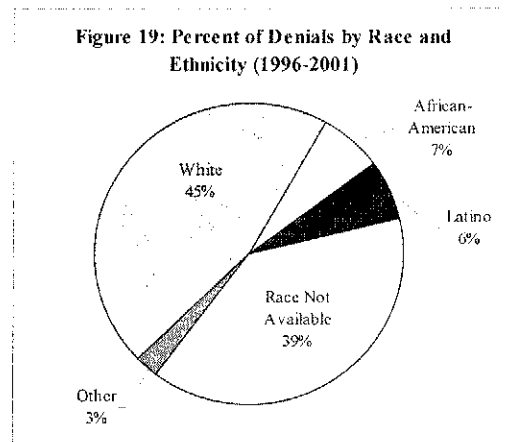
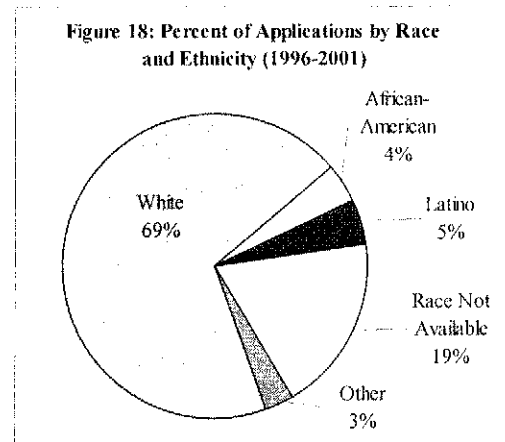
Analyzing the market distribution of applications and denials provides another method to consider the differences in loan application activity and outcome. Comparing the percent of applications submitted by race/ethnicity to the percent of denials by race/ethnicity further demonstrates the discrepancies among racial and ethnic groups in the lending market.

Figures 18 and 19 illustrate the notable differences in market distribution by race and ethnicity. While white applicants represented nearly 70 percent of all applications made in the Springfield MSA between 1996 and 2001, they represented only 45 percent of all denials. On the other hand, African-American and Latino applicants accounted for a larger share of denials than of



applications. While African-Americans accounted for 4.2 percent of all applications, their share of denials was to 6.6 percent. Latino applicants' distributions were similar but somewhat less drastic with 4.6 percent of applications and 6.4 percent of denials. These discrepancies in market distributions by race and ethnicity are further evidence that African-American and Latino applicants are disproportionately denied home loans.

Another concern highlighted by Figures 18 and 19 is the lack of complete data collection on the race and ethnicity of applicants. The market share of applications and denials categorized as "Race Not Available" are sizeable. Race and ethnicity information was not available for almost forty percent of all loan applications that end in a denial. This is a significant portion of data that is simply unknown.

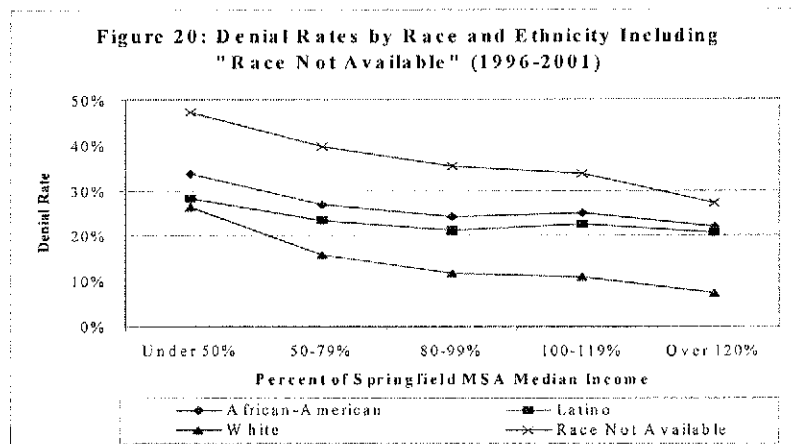


In writing for a proposed rule change, the Federal Reserve noted that "from 1993 to 2000 the proportion of home loan applications of all types with missing race or ethnicity data increased from about 8 percent to about 28 percent."<sup>29</sup> The Reserve also noted that some portion of the increase could be attributed to a rise in applications completed by phone.<sup>30</sup> The rule change, effective January 1, 2003, attempts to address this issue by requiring that telephone applicants be asked for their racial and ethnic information. Loan officers are required to tell the applicant that: 1) the information will not affect their loan application; 2) applicants are not required to provide the information; and 3) the information is for data collection purposes only.

<sup>29</sup> Board of Governors of the Federal Reserve System. 12 CFR Part 203. Regulation C; Docket No. R-1120. Proposed Rule. April 12, 2002.

Unfortunately, these later improvements in data collection do not benefit this study. Meanwhile, the statistics for the “Race Not Available” category were significant. As demonstrated in Figure 20, the denial rates for applications where race and ethnicity were not identified were the highest of any income group. In fact, the denial rate for low-income applicants for whom no racial or ethnic information was available was a startling 47.3 percent. Even high-income applicants in the “Race Not Available” group

had an exceptionally high denial rate of 27.2 percent which is five percentage points higher than the denial rate for high-income African-Americans who otherwise have the highest denial rates. While it is impossible to determine why



the denial rates were so high for “Race Not Available” applicants, or who these applicants were, these statistics are troubling because they allow for the possibility of deliberately discriminatory lending practices that cannot be tracked or investigated.

### Approval Ratio

While data available from the Home Mortgage Disclosure Act does not include details of individual applicants and the outcome of their applications, it does provide detailed information on loan outcomes by census tract. Within the Springfield Metropolitan Statistical Area (MSA) there are 121 census tracts and Census 2000 data identifies the demographic and socio-economic characteristics of these census tracts. Comparing these characteristics to home loan application outcomes provides an opportunity to identify those factors that may or may not influence loan dispositions.

<sup>30</sup> The Federal Reserve did not speculate as to other factors that may contribute to the increase of applications that lack data on applicants' race and ethnicity. The lack of information is, however, not caused by incomplete

This analysis, however, does have some notable flaws. The most significant problem is that the Census 2000 data and HMDA data may not be describing the same group of people. Not all applicants currently live or will live in the neighborhood where they are purchasing property. For example, non-resident landlords might receive a loan to purchase a rental property outside of the community where they reside. Also, because the unit of observation is a census tract as opposed to an individual applicant or resident, only average characteristics are available and we cannot be certain that a loan applicant has the same characteristics as the average characteristic of the census tract where they are purchasing a home. Therefore, analysis of refinance loans alone was included because refinance loan applicants already own property in the particular census tract.

For purposes of this analysis we calculated a loan approval ratio for each census tract—the total number of loans approved per loan denied from 1996 to 2001. We created an approval ratio for all loan types and for refinance loans. In statistical terms the approval ratio is the dependent, or outcome variable and we expect the value of the approval ratio to be influenced by other factors, referred to as independent variables. We selected these independent variables based on our assessment of what factors might impact the approval ratio for home loans. We considered all of the following variables from Census 2000 data:

- Median household income;
- Median value of owner-occupied housing stock;
- Percent of households headed by single mothers;
- Percent of housing stock that is vacant and is not seasonal;
- Percent of the housing stock that is owner-occupied;
- Percent of the population that are persons of color;
- Percent of the population that is over 65;
- Percent of the population that is under 18; and,
- Poverty rate.

Among these variables, all but the percent of the population over age 65 had a statistically significant relationship to the total approval ratio. However, as you can see from Table 2, these

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applications as an application must be completed to be defined as either denied or approved.

variables are also strongly interdependent with one another. For example, with a correlation coefficient of -0.851, there is a very strong inverse linear relationship between household income and the poverty rate. This is not surprising given that the poverty rate is determined using household income statistics.

**Table 2: Loan Approval Ratio Partial Correlation**

		Total Approval Ratio	Percent Persons of Color	Percent Male	Percent Under 18	Percent 65 and Older	Percent Single Mothers	Non-Seasonal Vacancy Rate	Percent Owner Occupied	Poverty Rate	Median Owner Occupied Home Value	Median Household Income
Total Approval Ratio	PC Sig.	1.000	-.595** .000	-.336** .000	-.551** .000	.064 .486	-.657** .000	-.592** .000	.354** .000	-.511** .000	.538** .000	.580** .000
Percent Persons of Color	PC Sig.	-.595** .000	1.000	-.069 .455	.587** .000	-.448** .000	.866** .000	.697** .000	-.727** .000	.887** .000	-.347** .000	-.753** .000
Percent Male	PC Sig.	-.336** .000	-.069 .455	1.000	.283** .002	.209* .021	.040 .666	.099 .281	.233** .010	-.034 .711	-.054 .554	.048 .598
Percent Under 18	PC Sig.	.551** .000	.587** .000	.283** .002	1.000	-.085 .351	.665** .000	.479** .000	-.175 .055	.523** .000	-.391** .000	-.376** .000
Percent 65 and Older	PC Sig.	.064 .486	-.448** .000	.209* .021	-.085 .351	1.000	-.258** .004	-.246** .007	.402** .000	-.406 .000	-.111 .226	.201* .027
Percent Single Mothers	PC Sig.	-.657** .000	.866** .000	.040 .666	.665** .000	-.258** .004	1.000	.738** .000	-.665** .000	.816** .000	-.461** .000	-.803** .000
Non-Seasonal Vacancy Rate	PC Sig.	-.592** .000	.697** .000	.099 .281	.479** .000	-.246** .007	.738** .000	1.000	-.671** .000	.724** .000	-.340** .000	.718** .000
Percent Owner Occupancy	PC Sig.	.354** .000	-.727** .000	.233** .010	-.175 .055	.402** .000	-.665** .000	-.671** .000	1.000	-.875** .000	.181** .047	.868** .000
Poverty Rate	PC Sig.	-.511** .000	.887** .000	-.034 .711	.523** .000	-.406** .000	.816** .000	.724** .000	-.875** .000	1.000	-.267** .003	-.851** .000
Median Owner Occupied Home Value	PC Sig.	.538** .000	-.347** .000	-.054 .554	-.391** .000	-.111 .226	-.461** .000	-.340** .000	.181* .047	-.267** .003	1.000	.478** .000
Median Household Income	PC Sig.	.580** .000	-.753** .000	.048 .598	-.376** .000	.201* .027	-.803** .000	-.718** .000	.868** .000	-.851** .000	.478** .000	1.000
PC = Pearson Correlation												
Sig.= Significance (2-tailed)												
** Correlation is significant at the 0.01 level (2-tailed).												
* Correlation is significant at the 0.05 level (2-tailed).												

Because our study is particularly concerned with the fairness of lending practices, our particular focus with this statistical analysis is assessing whether people of different racial or ethnic backgrounds experienced differential loan outcomes. For that reason, we calculated the partial correlation of the percent persons of color against the approval ratio when controlling for other

independent variables. In this case, we controlled for those variables with the strongest correlation to approval ratio and eliminated several variables that we believed duplicated the impact of other variables. The excluded variables are 1) poverty rate because of its close relationship to income, 2) percent single mothers also because of its relationship to income, and 3) percent over 65 because the correlation was not statistically significant.

The remaining independent variables include the percent of the population that is male, the percent of the population that is under 18, the housing vacancy rate, the percent of owner-occupied housing, median home value, and median household income. Table 3 represents the partial correlation between percent persons of color and the total approval ratio for all loan types when controlling for these independent variables. The results indicate that a statistically significant relationship (at the 0.01 level) remains between the percent persons of color and the home loan approval ratio by census tract. The negative value of the correlation coefficient (-0.2976) indicates that there is an inverse relationship—as percent persons of color increases, the approval ratio decreases.

**Table 3: Correlation Coefficient for All Loans**

		Total Approval Ratio	Percent Persons of Color
Total Approval Ratio	Correlation Coefficient	1.0000	-.2976**
	D.F.	0	113
	Sig. (2-tailed)		.001
Percent Persons of Color	Correlation Coefficient	-.2976**	1.000
	D.F.	113	0
	Sig. (2-tailed)	.001	

\*\* Correlation is significant at the 0.01 level (2-tailed).

Controlling for: percent male, percent under age 18, non-seasonal vacancy rate, percent owner-occupied housing, median home value, and median household income.

When controlling for the same variables and assessing the relationship between percent persons of color and the *refinance* approval ratio, the strength of the relationship increases. As Table 4 illustrates, the correlation coefficient is -0.3313, somewhat larger than the coefficient for all applications. This finding further confirms the inverse relationship between approval ratios and percent persons of color. In fact, the significance level (0.000) for the refinance approval ratio indicates greater statistical significance of the correlation between the refinance approval ratio and the percent persons of color.

**Table 4: Correlation Coefficient for Refinance Loans**

		Total Approval Ratio	Percent Persons of Color
Refinance Approval Ratio	Correlation Coefficient	1.0000	-.3313**
	D.F.	0	112
	Sig. (2-tailed)		.000
Percent Persons of Color	Correlation Coefficient	-.3313**	1.000
	D.F.	112	0
	Sig. (2-tailed)	.000	
** Correlation is significant at the 0.01 level (2-tailed).			
Controlling for: percent male, percent under age 18, non-seasonal vacancy rate, percent owner-occupied housing, median home value, and median household income.			

As noted previously, the HMDA data do not permit a complete and rigorous analysis of individual loan applicants and their results. This statistical testing and assessment of approval ratios by census tracts, therefore, serves as a proxy. These results should not be taken as the core of this report, but as a supplement to other findings. In particular, these results are consistent with and confirm our finding throughout this study that persons of color in the Springfield MSA have negative outcomes more often when applying for a home loan. This finding remains valid even when controlling for other factors, such as income and housing stock, which justifiably influence the lending process.

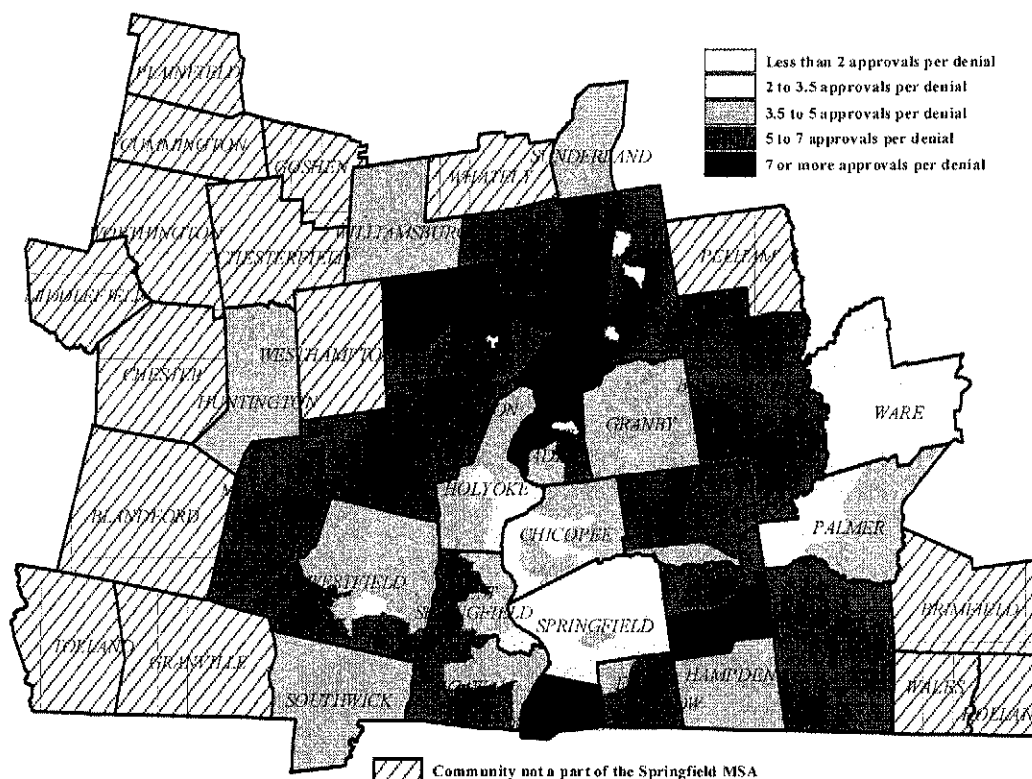
Using the statistical results as a guide, we can further our understanding of the lending market by comparing the approval ratios, median income and percent persons of color by census tract. The following figures provide a visual representation of the patterns of these variables throughout the Springfield MSA. Map 2 and 3 illustrate the data for the total approval and the refinance approval ratio, respectively, between 1996 and 2001. The darker shaded areas indicate more loan applications approved for each loan application that is denied. Please note that five census tracts in the Hampshire County region were omitted in this analysis and appear without shading on the maps.

Map 2 illustrates that the approval ratio for all loans varied geographically and indicates significant concentrations of high and low approval ratios. Census tracts with the lowest approval ratio (2 or fewer approvals per denial) are clustered together in Springfield and Holyoke. Chicopee also had one census tract with 2 or fewer approvals per denial. The urban core of



Springfield, Holyoke, and Chicopee contain all of the census tracts with the lowest approval ratio and also have the lowest median incomes within the Springfield MSA.

Map 2: Number of Loan Approvals per Denial  
1996 to 2001 by Census Tract



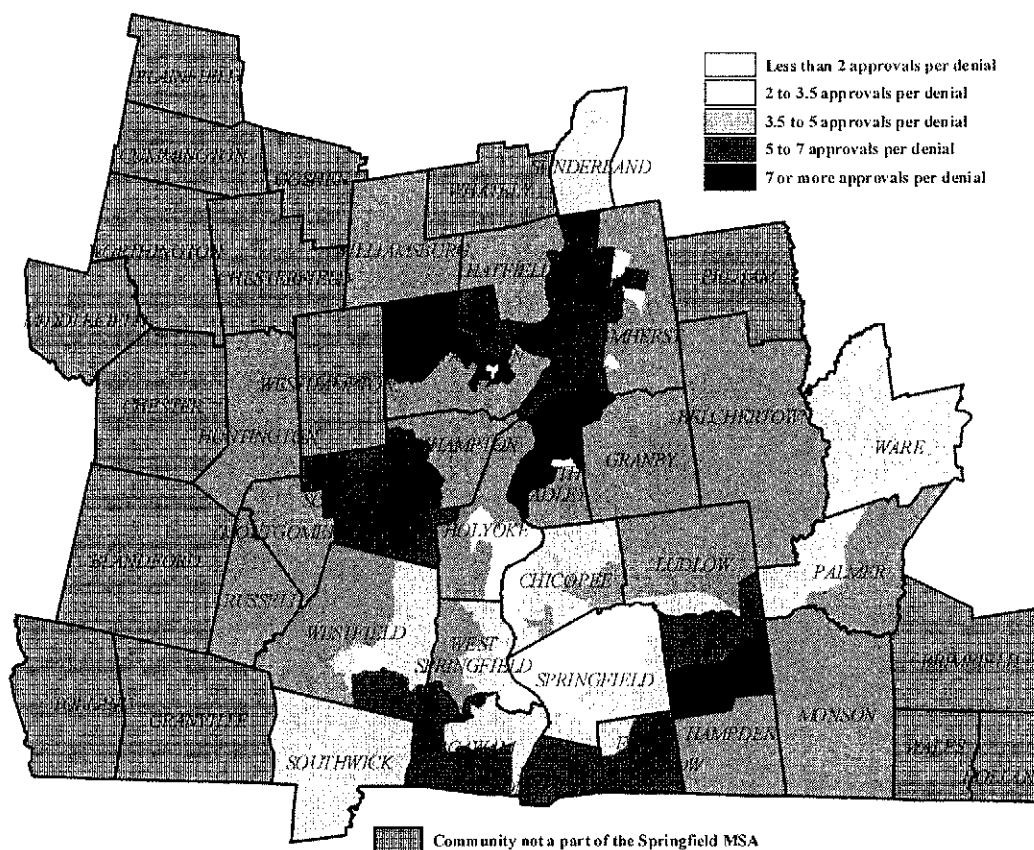
The second lowest approval ratio category, representing a ratio between 2 and 3.5 approvals per denial, was more geographically dispersed than the lowest approval ratio. Two census tracts in Ware, two of the three census tracts in Palmer, two census tracts in Westfield, and a number of additional census tracts in Springfield, Holyoke, and Chicopee had the second lowest approval ratio.

Census tracts with the highest approval ratio (seven or more approvals per denial) in the Springfield MSA include Longmeadow, South Hadley, Hadley, Wilbraham, and Northampton. The census tracts of Longmeadow along with one Wilbraham census tract with the highest approval ratio border Springfield census tracts, which had significantly lower approval ratios.



East Longmeadow, Agawam, West Springfield, Ludlow, and South Hadley had similar patterns of approval ratios. In these cities, the census tracts that share a border with the urban core had lower approval ratios than other census tracts that are farther away.

Map 3: Number of Loan Approvals per Denial for Refinances  
1996 to 2001 by Census Tract

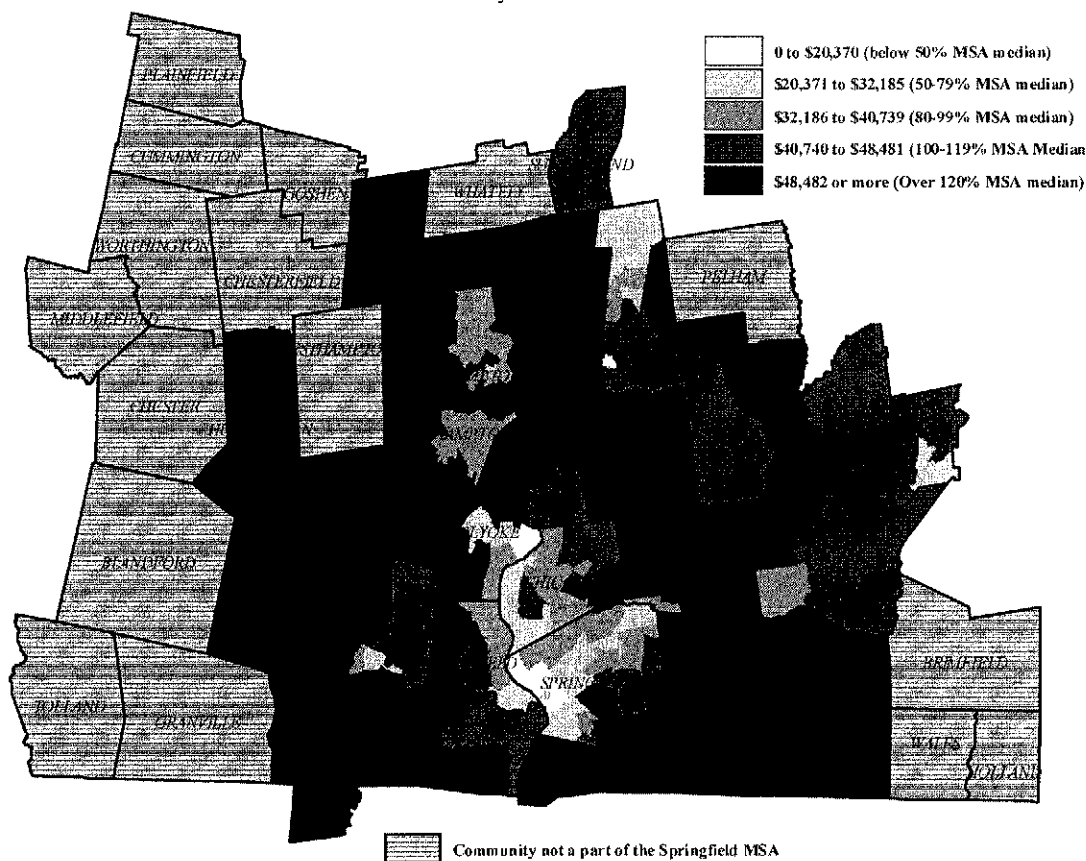


Map 3 demonstrates that refinance loans had similar trends in lending practices. The approval ratios for refinance loans, however, were consistently lower throughout the region as compared to that for all loans. Wilbraham, Northampton and South Hadley maintained census tracts with the highest approval ratios while Longmeadow and Hadley approval ratios dropped slightly. While Palmer and Ware maintained the same approval ratios for refinance and all loans, other surrounding non-urban communities had lower approval ratios for refinance loans.

The trend of lower approval ratios in the urban core held true for refinance loans. Comparatively, more census tracts in urbanized communities had an approval ratio of 2 or less for refinance loans than for all loans. In other words, applicants in the urban core were generally less likely to be approved for a refinance loan than they were for a home purchase loan.

Comparing the approval ratios to demographic and income by census tract illustrates the link between loan application outcomes and income. Map 4 displays the median household income by census tract for the Springfield MSA. Not surprisingly, areas with lower median income had correspondingly lower approval ratios.

Map 4: Median Household Income as a Percent of the MSA Median  
2000 by Census Tract



Even within the cities of Holyoke and Springfield, patterns of approval ratios and income are evident. Census tracts in the southern and eastern part of Springfield that have higher median incomes also have higher approval ratios. Holyoke and Chicopee census tracts of lower income and lower approval ratios are clustered together along the Connecticut River.

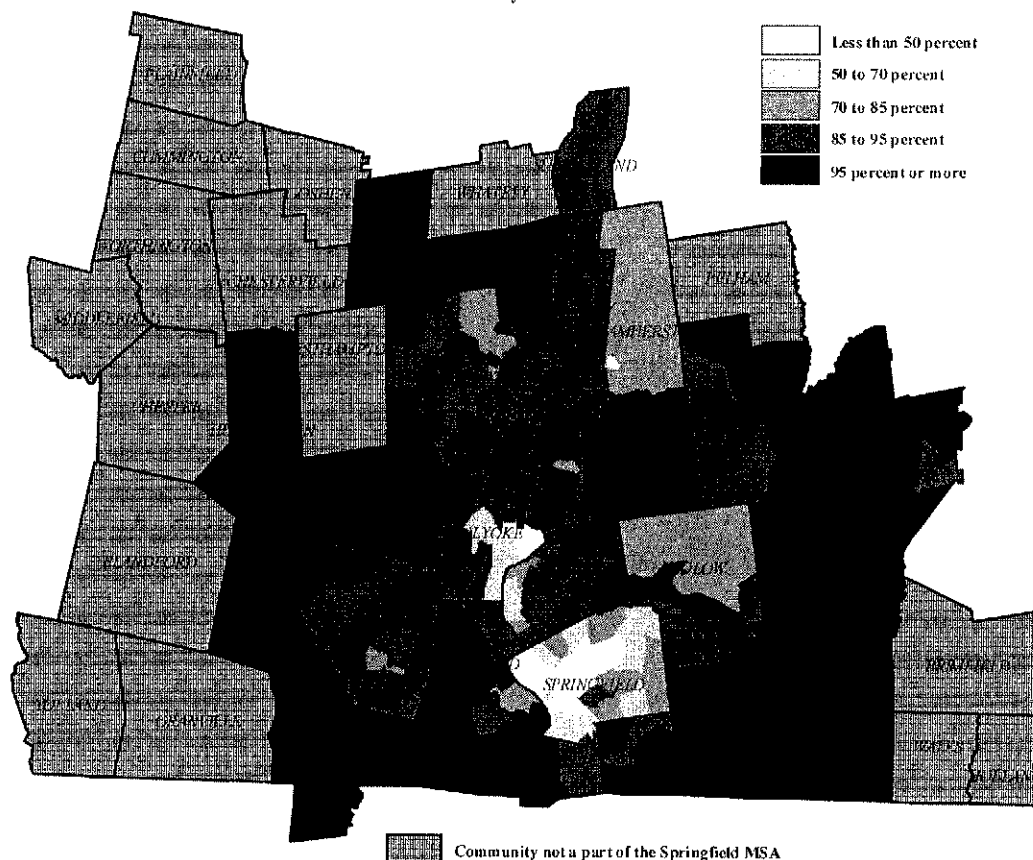
Interestingly, the median income of the four census tracts in Amherst represent all but the lowest income group, however, the approval ratios for these same four census tracts are consistently high (5 to 7). Northampton has three census tracts with median incomes of 80 to 99 percent of the Springfield MSA while maintaining a high approval ratio. Palmer, Ware, and areas in the urban core appear to have an opposite trend where higher income census tracts have lower approval ratios. For example, census tracts clustered in the southeast corner of Springfield have median incomes equivalent or similar to surrounding suburban communities but have significantly lower approval ratios than these suburban areas.

Map 5 shows the racial composition of the Springfield MSA by census tract according to the percentage of white residents. Many of the census tracts in the Springfield MSA are populated by 90 percent or more of white residents. Census tracts with less than 90 percent white residents are located in Amherst, Chicopee, Holyoke, Northampton, Springfield, West Springfield, and Westfield. Census tracts with less than 50 percent white residents are located only in Holyoke and Springfield.

The only census tract in Springfield with a high approval ratio (5 to 7 approvals per denial), located in East Forest Park, also has the highest median income (over 120%) and is over 90 percent white residents. Other high-income census tracts, located in East Forest Park and Sixteen Acres, had more persons of color and lower approval ratios. Census tracts along the northern border of Springfield in the neighborhoods of East Springfield and Indian Orchard were of middle-income (80-99%), between 60 and 80 percent white residents, and had the lowest approval ratio for all loan types.

Census tracts in Chicopee appear to exhibit a more positive pattern when comparing race, income, and approval ratios. For example, the two census tracts comprising Chicopee center

Map 5: Percent of the Population that is White  
2000 by Census Tract



have low approval ratios (2 to 3.5 approvals per denials) but are of middle-income (80-99% of the Springfield MSA) and have high percentages of white residents. Meanwhile, three of the four census tracts in the western part of the city, on the Connecticut River, had similar approval ratios of 2 to 3.5 but had more persons of color and lower median incomes. Throughout Chicopee, the approval ratio remained more consistent regardless of racial composition.

Other inconsistencies exist in Easthampton, Northampton, Ware, and Palmer as these census tracts maintained higher approval ratios than expected relative to their income. All four of these communities had high percentages of white residents (90% or more), except for three census tracts in Northampton that were 80-90 percent white. The approval ratios in these communities remained high even for those census tracts with lower median incomes.

Throughout this analysis, a disturbing trend of differences between the lending statistics of white applicants and African-American and Latino applicants has emerged. Census tracts with lower median incomes and higher percentages of persons of color have less lending activity and drastically higher denial rates. Even high-income African-American and Latino applicants continue to be subjected to denial rates three times higher than their white counterparts. White applicants make up far less of the market share of denials than for applications. Moreover, the number of applications lacking race or ethnicity data is striking considering the tremendously high denial rates evidenced by this category. And, when the ratio of approvals to denials is controlled by many of the interrelated factors that influence the lending process, the relationship between race or ethnicity on loan outcomes remains significant. We hope that these findings provide a convincing argument that similar applicants do not receive similar treatment in the lending market of the Pioneer Valley. Furthermore, the need to address this issue is essential for the growth and prosperity of communities throughout the region.



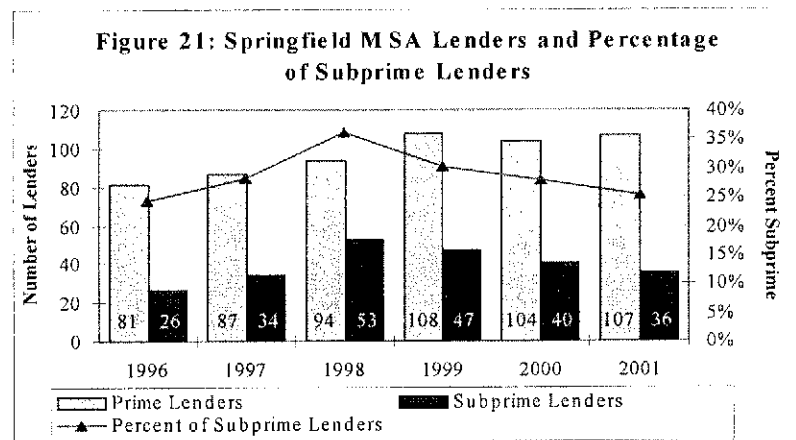
## SUBPRIME LENDING MARKET

This final section provides an overview and analysis of the subprime lending market in the Springfield MSA. The overview includes an assessment of changes in subprime lending volume, outcomes, and value. The analysis focuses on subprime lending statistics for 1997 and 2001 to determine if subprime lenders target certain areas or groups. Evaluating differences in market share based on characteristics or location of applicants facilitates this analysis.

### Subprime Volume

Figure 21 displays the number of subprime and prime lenders and presents data on the percent of all lenders defined as subprime between 1996 and 2001. The actual number of subprime lenders grew by 10 (or 38%) over the six years studied. The actual number of subprime lenders and the percent of all lenders that are subprime peaked in 1998 at 53 subprime lenders and 36 percent of all lenders operating in the

Springfield MSA. The actual number and percent of subprime lenders decreased steadily from 1998 until 2001. The percent of all lenders that are subprime was about 25 percent at the beginning and end of the study period.

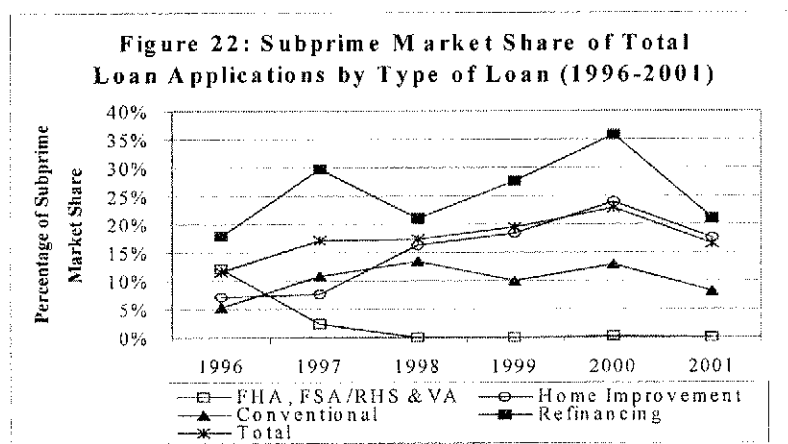


This suggests a similar rate of growth for prime and subprime lenders during the six years of this study.

As the proportion of subprime lenders (as compared to all lenders) fluctuated over time, variations are also evident in the subprime lenders' market share of applications. Figure 22 demonstrates subprime lenders' market share of applications by type of loan from 1996 to 2001. The overall trend, represented by the line for total applications, is a gradual increase from 1996

to 2000. In 2001, when mortgage rates were extraordinarily low, the share of loan applications going to subprime lenders declined.

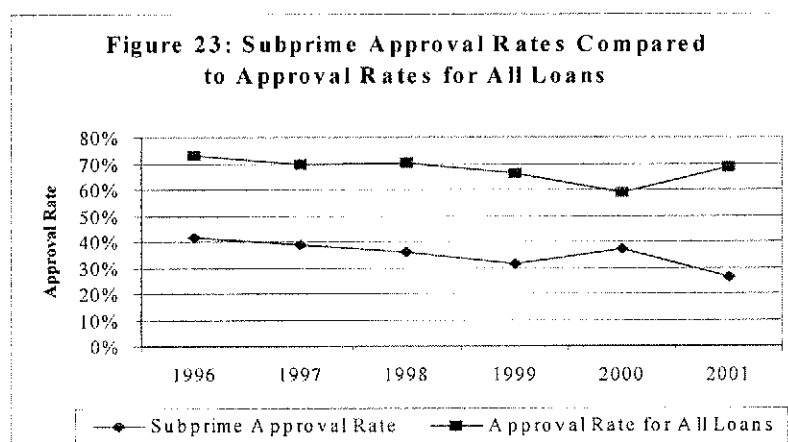
The volume of subprime FHA and refinance loan



applications did not follow the overall subprime market trend. Subprime FHA loans fell from 12.2 percent in 1996 to close to zero in 1998 and onward. This decline is likely a result of strict FHA regulations that prevent subprime lending of Federal mortgage products. Subprime refinance loans had the most dramatic changes and the largest market share for any single type of subprime loan. Recall that refinance loan application numbers were lowest in 1996, 1997 and 2000 (see Figure 1). Subprime refinance loan application market share, on the other hand, peaked during 1997 and 2000 at 29.8 and 35.7 percent, respectively. Despite high mortgage rates in 1996, commonly associated with a high volume of subprime applications, subprime refinance loan application market share was about 18.0 percent; lower than the 21 percent level in 1998 and 2001 when mortgage rates were low.

### Subprime Outcomes

Subprime loan application activity tends to be associated with lower approval and origination rates than prime lending activity because applicants for subprime loans often carry greater risk for the

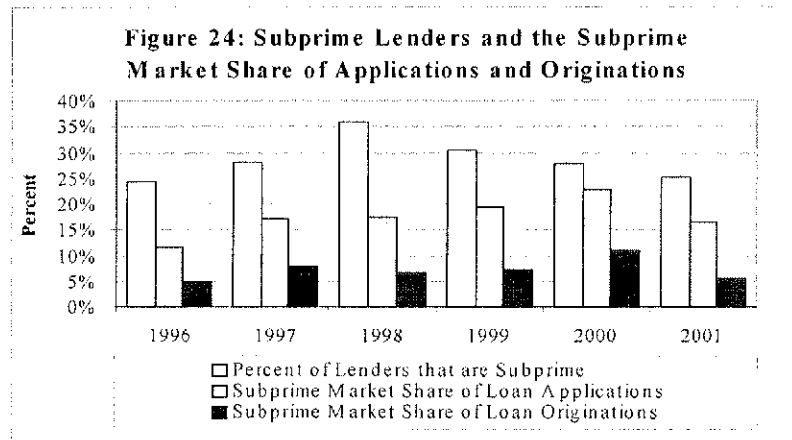


lender. Figure 23 compares the approval rate for all loans and the approval rate for subprime loans alone. Subprime approval rates were less than approval rates for all loans by at least 20



percentage points every year of this study. Subprime approval rates declined from 41.5 percent in 1996 to 31.3 percent in 1999 and declined again from 37.0 percent in 2000 to 26.5 percent in 2001. The highest approval rates for all loans and subprime loans occurred in 1996 and were 73.4 and 41.5 percent, respectively.

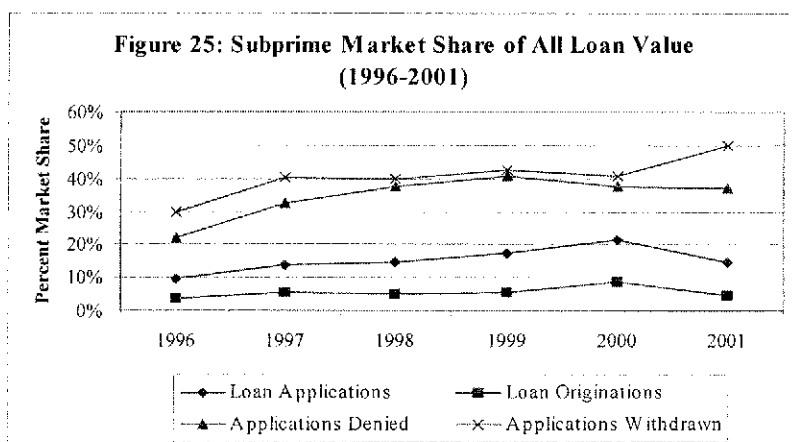
Figure 24 compares the percent of lenders that are subprime with the share of applications and originations that are subprime. In evaluating this data, the subprime lenders' market share of loan applications was



substantially smaller than the percent of lenders that are subprime. Furthermore, the subprime lenders' share of originations was significantly less than that of applications. In other words, subprime lenders controlled less of the lending market than the number of subprime lending institutions would indicate, due in part to the low approval and origination rates associated with subprime lending. In 2000, for example, the percent of all lenders that were subprime was 28 percent, while the subprime origination market share was only about 11.1 percent.

### Subprime Value

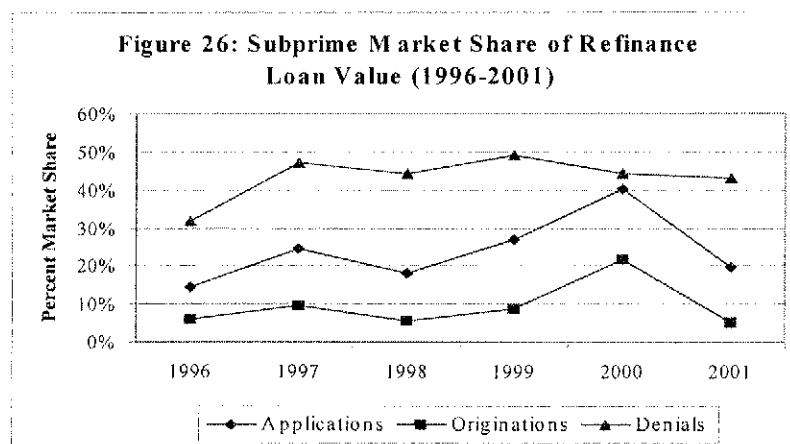
Figures 25 and 26 illustrate subprime lenders' market share of the dollar value of loan application outcomes for all loans (Figure 25) and for refinance loans (Figure 26). The market share of



subprime loan originations in dollar values remained less than 10 percent throughout the course of the study. Subprime lenders' market share of loan originations in dollar values reached its

highest level of 8.8 percent in 2000 and then fell sharply to 4.4 percent in 2001. Reflecting subprime lenders' lower approval rates, their market share of denied and withdrawn loan values is high. Subprime lenders, in 2001, accounted for 50 percent of the dollar value of withdrawn loan applications.

The subprime share of refinance loan dollar value is generally slightly higher and fluctuates to a greater extent than for other types of loans. As Figure 26 demonstrates, the subprime market share of refinance loan dollar value for



applications dramatically increases in 2000 to 40.4 percent, only four percentage points less than that for applications denied. Moreover, in 2000, subprime refinance loan originations account for 21.9 percent of the refinance origination dollar value in the lending market, a significantly higher proportion than for subprime loans of different types and during other years.

### Subprime Trends

Comparing the denial rates of prime and subprime lenders for refinance and conventional loans indicates discrepancies in subprime lending market practices. Tables 5 and 6 present aggregated data on denial rates for refinance and conventional loans from ten prime and ten subprime lenders that have a significant market presence in the Springfield MSA.<sup>31</sup> Table 5 (1997) and Table 6 (2001) present lending data on the race/ethnicity and income of applicants. Because the data presented in Tables 5 and 6 represent a small sample of lending statistics, analysis and conclusions are limited. The purpose of including this information, however, is to show that the nationwide trend of high denial rates in subprime lending is prevalent in the Pioneer Valley as well.

<sup>31</sup> See Appendix for a list of lenders and additional data.

**Table 5: Subprime Application Volume (AV) & Denial Rates (DR) for 10 Leading Prime and Subprime Lenders by Race, Ethnicity and Income (1997)**

		Prime				Subprime			
		Refinance		Conventional		Refinance		Conventional	
		AV	DR	AV	DR	AV	DR	AV	DR
<b>Race/Ethnicity</b>	Am. Indian/Ak Native	3	33%	1	0%	3	0%	4	25%
	Asian/Pacific Islander	13	15%	24	13%	5	60%	3	0%
	African-American	27	44%	54	15%	116	26%	78	24%
	Latino	24	54%	81	21%	54	26%	81	15%
	White	1277	9%	1729	7%	782	25%	227	19%
	Other	28	4%	9	22%	20	20%	4	50%
	Joint (White/Minority)	13	0%	28	7%	16	6%	2	0%
	Race not Available	99	45%	26	50%	395	29%	92	25%
<b>Income</b>	Under 50%	85	21%	140	27%	206	36%	68	19%
	50-79%	260	17%	449	11%	418	26%	178	21%
	80-99%	219	19%	333	8%	235	25%	89	20%
	100-119%	198	13%	263	6%	182	24%	63	25%
	Over 120%	722	9%	767	4%	350	21%	93	18%
	Total	1484	13%	1952	8%	1391	26%	491	21%

**Table 6: Subprime Application Volume (AV) & Denial Rates (DR) for 10 Leading Prime and Subprime Lenders by Race, Ethnicity and Income (2001)**

		Prime				Subprime			
		Refinance		Conventional		Refinance		Conventional	
		AV	DR	AV	DR	AV	DR	AV	DR
<b>Race/Ethnicity</b>	Am. Indian/Ak Native	23	30%	3	33%	8	63%	0	-
	Asian/Pacific Islander	38	16%	55	7%	14	36%	7	43%
	African-American	69	33%	62	6%	217	36%	55	45%
	Latino	106	44%	215	10%	154	42%	54	39%
	White	3759	8%	2249	5%	1004	30%	151	31%
	Other	21	19%	16	6%	12	50%	2	0%
	Joint (White/Minority)	55	11%	50	2%	26	31%	1	0%
	Race not Available	416	33%	75	33%	1418	52%	33	33%
<b>Income</b>	Under 50%	166	34%	196	16%	357	51%	22	41%
	50-79%	599	19%	714	8%	818	47%	103	34%
	80-99%	595	15%	393	6%	491	39%	70	36%
	100-119%	591	13%	300	4%	362	42%	38	39%
	Over 120%	2536	8%	1122	3%	825	36%	70	33%
	Total	4487	12%	2725	6%	2853	42%	303	35%

The denial rates of the sample of twenty lenders show significant differences between subprime and prime loan outcomes. Subprime denial rates were consistently higher for both refinance and conventional loans. In 1997, the denial rate for all subprime conventional loan applications was 21 percent as compared to eight percent for prime conventional loan applications (Table 5). In 2001, conventional loan denial rates for subprime applications were almost six times that of prime denial rates at 35 and six percent respectively (Table 6). While refinance denial rates were higher than conventional loan denial rates, the difference between prime and subprime denial rates for refinance loans was similar to that of conventional loans. In 1997, the subprime refinance loan denial rate was double that for prime refinance loans (Table 5). In 2001, the denial rate for all refinance subprime loans was 3.5 times that for prime lenders (Table 6). This growing disparity between prime and subprime lending denial rates is a concern as subprime lenders continue to have a strong presence in the Springfield MSA lending market.

Considering that the market share of applications demonstrates in part whom subprime lenders are targeting, another notable pattern emerges from the data. Tables 7 and 8 present the subprime market share of applications based on the application volume for conventional and refinance loans by race/ethnicity and income for 1997 and 2001, respectively. As with Tables 5 and 6, the sample size is small and the analysis is limited; however, the data is included in the report to initiate a discussion of patterns of activity by subprime lending institutions.

The high rates of subprime market share of refinance loan applications are alarming. In 1997 almost half (48%) of all refinance loan applications were submitted to subprime lenders. In 2001, nearly 2 in 5 (39%) applications went to subprime lenders. While the rate of subprime application activity decreases as income increases, the rate of subprime applications is high across all incomes. In 1997, 71 percent of low-income homeowners looking to refinance, applied for a subprime loan. During the same year, 52 percent of applicants with incomes of 80-99 percent of the Springfield MSA median and 33 percent of high-income homeowners applied for subprime loans. In 2001, similar trends are evident but the market shares were lower.

**Table 7: Subprime Market Share of Applications Type of Loan for 10 Leading Prime and Subprime Lenders by Race, Ethnicity and Income (1997)**

		Conventional Loans			Refinance Loans		
		Application Volume		Subprime Market Share	Application Volume		Subprime Market Share
		Prime	Subprime		Prime	Subprime	
<b>Race/Ethnicity</b>	Am. Indian/Ak Native	1	4	80%	3	3	50%
	Asian/Pacific Islander	24	3	11%	13	5	28%
	African-American	54	78	59%	27	116	81%
	Latino	81	81	50%	24	54	69%
	White	1729	227	12%	1277	782	38%
	Other	9	4	31%	28	20	42%
	Joint (White/Minority)	28	2	7%	13	16	55%
	Race not Available	26	92	78%	99	395	80%
<b>Income</b>	Under 50%	140	68	33%	85	206	71%
	50-79%	449	178	28%	260	418	62%
	80-99%	333	89	21%	219	235	52%
	100-119%	263	63	19%	198	182	48%
	Over 120%	767	93	11%	722	350	33%
Total		1952	491	20%	1484	1391	48%

**Table 8: Subprime Market Share of Applications Type of Loan for 10 Leading Prime and Subprime Lenders by Race, Ethnicity and Income (2001)**

		Conventional Loans			Refinance Loans		
		Application Volume		Subprime Market Share	Application Volume		Subprime Market Share
		Prime	Subprime		Prime	Subprime	
<b>Race/Ethnicity</b>	Am. Indian/Ak Native	3	0	0%	23	8	26%
	Asian/Pacific Islander	55	7	11%	38	14	27%
	African-American	62	55	47%	69	217	76%
	Latino	215	54	20%	106	154	59%
	White	2249	151	6%	3759	1004	21%
	Other	16	2	11%	21	12	36%
	Joint (White/Minority)	50	1	2%	55	26	32%
	Race not Available	75	33	31%	416	1418	77%
<b>Income</b>	Under 50%	196	22	10%	166	357	68%
	50-79%	714	103	13%	599	818	58%
	80-99%	393	70	15%	595	491	45%
	100-119%	300	38	11%	591	362	38%
	Over 120%	1122	70	6%	2536	825	25%
Total		2725	303	10%	4487	2853	39%

The higher rates of subprime market share for refinance loans indicates, therefore, that subprime lenders targeted existing homeowners. The targeting of homeowners by subprime lenders is problematic and raises important questions regarding subprime mortgage lending. The practice of targeting homeowners through the refinance loan market is particularly alarming because predatory lending may be contributing to the high levels of subprime loan application activity. As discussed in the methodology section, predatory lending practices often occur within the subprime market. A HUD-Treasury Task Report identifies that: “in some low-income and minority communities, especially where competition is limited, predatory lenders may make loans with interest rates and fees significantly higher than prevailing market rates, unrelated to the credit risk posed by the borrower.”<sup>32</sup> Other examples of the negative impact of predatory lending include their sales practices, such as loan flipping, or recommending refinancing when there is little or no benefit to the borrower. Homeowners may be enticed by a predatory lender’s refinance offer to consolidate loans or because they are having trouble making payments. Predatory lenders, however, often set high origination fees that are incorporated into the loan increasing the total amount owed. The result is that homeowners believe refinancing is saving them money, when in fact, the opposite is true. This trend threatens the financial security of individuals and families, as homeownership is the primary investment of many people in the United States.

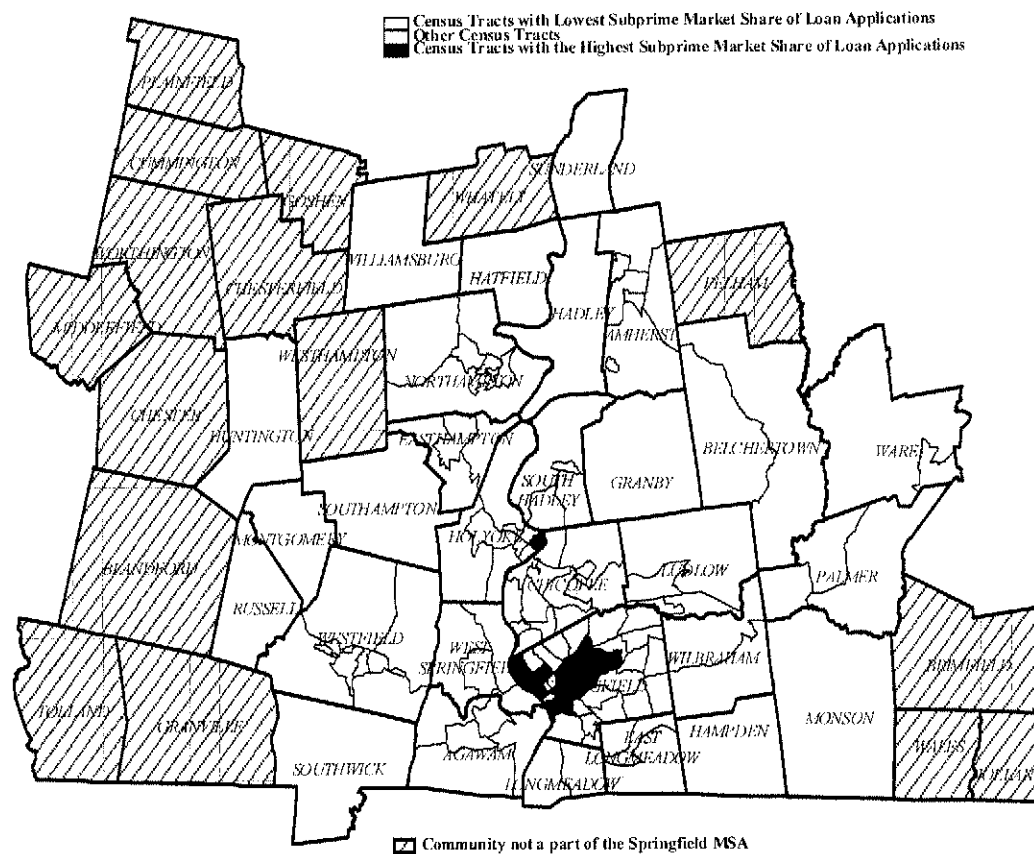
Further examination of the subprime market share of conventional and refinance loan applications indicates that patterns of differential treatment may also occur according to the race and/or ethnicity of the applicant. Across both years and types of loans, the market share of subprime applications is significantly higher for African-American and Latino applicants than for white applicants. More specifically, market shares range from 47 to 81 percent for African-American applicants, 20 to 69 percent for Latino applicants and 6 to 38 percent for white applicants. The differences in subprime market share of applications indicate that subprime lenders may be targeting persons of color.

A map of the market share of subprime loan applications by census tract further supports the conclusion that subprime lenders are targeting communities of color. Map 6 identifies the census

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<sup>32</sup> HUD-Treasury Task Force Report, p. 72.

**Map 6: Census Tracts with the Highest and Lowest Subprime Market Share of Loan Applications  
2001**



tracts with the highest (black shading) and lowest (gray shading) market share of subprime applications in 2001. The average subprime market share in 2001 for the Springfield MSA is 16 percent and the median is 15 percent. Table 9 provides additional detail about the characteristics of the census tracts highlighted in Map 6.

For the census tracts with concentrated subprime loan application activity in 2001, the subprime market share reached as high as 54 percent and had a median market share value of 40 percent; nearly three times higher than the Springfield MSA median market share of 15 percent. All of the census tracts with high subprime market share of applications were home to less than 50 percent white residents. The median percent of residents under 18 years of age was 34 percent as compared to the Springfield MSA median of 24 percent. The vacancy rate was twice that of the



Pioneer Valley Planning Commission

Owning a Place to Call Home

**Table 9: Characteristics of Census Tracts With the Highest & Lowest Market Shares for All Subprime Loan Applications (2001)**

	Census Tract	Market Share	White	Under 18	65 and Over	Married Family	Single Mothers	Vacancy Rate*	Owner Occ.	Poverty Rate	Median HV**	Hshd Income
Over Twice the Average Market Share (Black shading)	8008.00	54%	17%	35%	13%	9%	9%	7%	6%	51%	52%	34%
	8114	47%	16%	44%	5%	7%	15%	8%	12%	49%	52%	33%
	8018	45%	7%	39%	7%	9%	12%	12%	34%	39%	55%	52%
	8017.00	44%	26%	27%	7%	11%	11%	9%	46%	19%	62%	77%
	8014.01	44%	8%	35%	8%	8%	15%	12%	38%	38%	59%	52%
	8020	43%	22%	36%	6%	7%	16%	7%	15%	50%	77%	41%
	8013.00	42%	17%	34%	11%	8%	13%	9%	41%	35%	68%	54%
	8007.00	40%	7%	37%	8%	10%	10%	4%	20%	38%	59%	39%
	8019	38%	22%	33%	10%	8%	13%	12%	18%	46%	56%	40%
	8022	35%	30%	34%	8%	10%	12%	8%	31%	36%	65%	64%
	8011.01	35%	18%	25%	11%	6%	15%	13%	3%	44%	187%	38%
	8006.00	34%	2%	46%	4%	8%	14%	8%	6%	63%	254%	26%
	8015.01	34%	47%	29%	13%	16%	8%	4%	75%	15%	63%	93%
	8009.00	34%	25%	34%	20%	9%	10%	7%	12%	50%	68%	31%
	8014.02	33%	45%	27%	15%	12%	9%	4%	57%	17%	60%	59%
	Median	40%	18%	34%	8%	9%	12%	8%	20%	39%	62%	41%
	MSA (2000)	15%	78%	24%	14%	46%	9%	4%	62%	14%	\$123,600	\$40,740
	Census Tract	Market Share	White	Under 18	65 and Over	Married Families	Single Mothers	Vacancy Rate*	Owner Occ.	Poverty Rate	Median HV**	Hshd Income
The Least Market Share (Gray Shading)	8129.03	7%	90%	1%	1%	31%	0%	0%	86%	0%	175%	206%
	8134.04	7%	97%	26%	18%	26%	2%	2%	89%	2%	151%	165%
	8134.03	7%	94%	25%	19%	26%	1%	2%	84%	4%	119%	155%
	8224.02	6%	93%	18%	16%	17%	5%	5%	43%	13%	102%	95%
	8216.02	6%	91%	19%	18%	17%	5%	2%	55%	8%	118%	93%
	8106.02	6%	96%	22%	14%	24%	5%	1%	96%	3%	114%	143%
	8210.00	5%	95%	20%	23%	23%	4%	1%	88%	5%	107%	115%
	8205.00	5%	83%	13%	12%	14%	2%	2%	40%	23%	138%	97%
	8213.00	5%	94%	20%	22%	22%	3%	3%	72%	4%	141%	127%
	8133.02	5%	94%	24%	22%	27%	2%	1%	91%	2%	193%	196%
	8215.00	4%	97%	21%	17%	24%	3%	3%	73%	3%	140%	123%
	8207.00	4%	75%	24%	8%	17%	4%	2%	57%	14%	164%	140%
	8219.01	4%	89%	16%	11%	18%	3%	3%	52%	9%	191%	125%
	8216.01	3%	79%	20%	21%	18%	7%	5%	55%	15%	114%	93%
	8217	2%	93%	20%	20%	21%	5%	3%	74%	7%	122%	125%
	Median	5%	93%	20%	18%	22%	3%	2%	73%	5%	138%	125%
	MSA (2000)	15%	78%	24%	14%	46%	9%	4%	62%	14%	\$123,600	\$40,740

\* Non-Seasonal Vacancy Rate

\*\*Median Home Value

Springfield MSA, while the rate of owner-occupied housing for high subprime application areas was about one-third (20%) of the Springfield MSA median (62%).

All in all, the census tracts with high market shares of subprime loan applications in 2001 had larger populations of persons of color, were younger, and had significantly lower incomes. The owner-occupied housing stock was of lesser value in census tracts with high subprime market share and far less of the total housing stock was owner-occupied. In 1997, similar trends were evident (see Appendix). In fact, of the 18 census tracts in 1997 and 15 census tracts in 2001 with twice the average market share of subprime loan applications, 10 of the census tracts appear on the list for both years.

Census tracts with the least amount of subprime market share in 2001 had a median market share of 5 percent with a lowest market share of two percent (8217) and a highest market share of 7 percent (8129.03). The median percent white was 93 for census tracts with the least amount of subprime market share of applications. The poverty rate in census tracts with low subprime application market share was almost one-third (5%) of that for the Springfield MSA (14%). Median owner-occupied home value was 138 percent and household income was 125 percent of the Springfield MSA median.

The data presented in the map and table indicate a trend in subprime lending. In this analysis, the market share of subprime applications demonstrates, in part, if subprime lenders are targeting certain areas or groups of people in the Springfield MSA because the volume of applications is a measure of where subprime lenders are actively marketing their product. Both the map and the tables indicate that subprime lenders appear to be targeting their efforts on low- income neighborhoods and communities of color.

The similarity in high subprime market share census tracts from 1997 and 2001 suggests the practice of targeting low-income areas and communities of color with subprime loans has continued over time. While this study is preliminary, it reveals that strong evidence exists and we hope this prompts further investigation and inquiries about how subprime lending contributes to the overall fairness of the lending market. For example, high loan denial rates among African-

Pioneer Valley Planning Commission

Owning a Place to Call Home

American and Latino applicants is likely related, at least partially, to the practice of subprime lenders who target communities of color and deny applications at high rates than prime lenders. Understanding the impact of subprime lending is vital in making future policy decisions that enhance the fairness of all lending.

**APPENDIX**

Appendix Table 1: Lending Statistics for the Springfield Metropolitan Statistical Area

	1996	1997	1998	1999	2000	2001	Percent Change 1996-2001
<b>Loan Volume (# of Applications)</b>							
FHA, FSA/RHS, VA Mortgage	1,955	1,844	1,790	2,117	1,872	1,936	-0.97%
Conventional Mortgage	6,006	6,351	6,881	8,036	8,363	8,260	37.53%
Refinance Loan	7,541	7,129	16,149	14,351	9,515	20,758	175.27%
Home Improvement Loan	2,677	2,558	2,661	3,032	3,358	2,836	5.94%
Aggregate	18,179	17,882	27,481	27,536	23,108	33,790	85.87%
<b>Loan Outcomes (# of Loans Originated)</b>							
FHA, FSA/RHS, VA Mortgage	1,401	1,505	1,467	1,717	1,464	1,522	8.64%
Conventional Mortgage	4,702	4,773	5,053	5,933	6,045	6,234	32.58%
Refinance Loan	4,783	3,953	10,251	7,304	3,074	11,924	149.30%
Home Improvement Loan	1,465	1,187	1,106	1,245	1,149	1,111	-24.16%
Aggregate	12,351	11,418	17,877	16,199	11,732	20,791	68.33%
<b>Loan Outcomes (Approval Rate)</b>							
FHA, FSA/RHS, VA Mortgage	76.27%	84.16%	85.14%	84.36%	82.53%	84.56%	10.87%
Conventional Mortgage	81.15%	79.56%	77.47%	80.18%	78.88%	82.57%	1.75%
Refinance Loan	69.98%	61.87%	68.93%	58.31%	39.60%	63.68%	-9.00%
Home Improvement Loan	63.28%	56.80%	52.20%	52.67%	49.52%	49.54%	-21.71%
Aggregate	73.36%	69.73%	70.50%	66.07%	58.74%	68.30%	-6.90%
<b>Total Loan Value (Loans Originated) (\$000s) (2001 \$'s)</b>							
FHA, FSA/RHS, VA Mortgage	\$139,041	\$146,009	\$148,036	\$175,579	\$148,156	\$163,824	17.82%
Conventional Mortgage	\$308,325	\$519,024	\$557,617	\$668,489	\$654,875	\$724,300	42.49%
Refinance Loan	\$466,812	\$386,107	\$1,060,677	\$692,708	\$256,803	\$1,281,222	174.46%
Home Improvement Loan	\$23,509	\$20,731	\$19,070	\$23,140	\$21,364	\$25,064	6.62%
Aggregate	\$1,137,686	\$1,071,871	\$1,785,401	\$1,559,916	\$1,081,199	\$2,194,410	92.88%
<b>Average Loan Value (Loans Originated) (2001 \$'s)</b>							
FHA, FSA/RHS, VA Mortgage	\$99,244	\$97,016	\$100,911	\$102,259	\$101,200	\$107,637	8.46%
Conventional Mortgage	\$108,108	\$108,742	\$110,354	\$112,673	\$108,333	\$116,185	7.47%
Refinance Loan	\$97,598	\$97,674	\$103,471	\$94,840	\$83,540	\$107,449	10.09%
Home Improvement Loan	\$16,047	\$17,465	\$17,243	\$18,586	\$18,594	\$22,560	40.59%
Aggregate	73.36%	69.73%	70.50%	66.07%	58.74%	68.30%	-6.90%

Appendix Table 2: Lending Data by Type of Institution for FHA, Conventional and Refinance Loans

	Applications	Originations	Approved	Denied	Origination Rate	Approval Rate	Denial Rate
1997	Local Institutions	4206	3563	578	82.9%	84.7%	9.0%
	Non-Local Institutions	11118	7453	2136	60.7%	67.0%	19.2%
	Total	15324	11016	2514	66.8%	71.9%	16.4%
2001	Local Institutions	6498	5772	386	85.8%	88.8%	5.9%
	Non-Local Institutions	24456	15893	5003	57.7%	65.0%	20.5%
	Total	30954	21665	5389	63.6%	70.0%	17.4%

Appendix Table 3: Applications and Denials for All Loans by All Lenders in the Springfield MSA from 1996 to 2001

Applicant Characteristic	1996		1997		1998		1999		2000		2001		Total	Denial Rate
	A	D	A	D	A	D	A	D	A	D	A	D		
Race/Ethnicity														
Amer. Indian/AK Native	22	5	23	2	35	7	41	10	32	16	59	19	212	59
Asian Pacific Islander	109	16	141	20	210	25	178	27	197	43	272	37	1107	168
African-American	317	53	645	137	716	150	941	312	1147	326	1057	271	4823	1249
Latino	254	48	770	179	746	134	892	252	1179	291	1357	307	5198	1211
White	8630	736	11059	1455	16170	1412	14027	1707	11284	1621	18261	1734	79431	8665
Other	32	2	116	15	127	13	127	33	110	14	143	22	655	99
Joint (White/Minority)	178	18	192	25	255	20	208	46	231	38	364	30	1428	177
Race Not Available	936	275	1773	559	4336	1516	4032	1263	3781	1385	6447	2296	21305	7294
Income	A	D	A	D	A	D	A	D	A	D	A	D	A	D
Under 50%	n/a	n/a	1266	426	1393	415	1602	509	1513	517	1791	640	7565	2507
50-79%	n/a	n/a	3758	764	4470	855	4391	1038	4434	1093	5790	1348	22843	5098
80-99%	2365	326	2419	373	3419	521	2988	570	3049	639	4440	804	18680	3233
100-119%	2227	279	1964	294	3104	465	2845	483	2348	479	3696	588	16184	2588
Over 120%	5886	548	5312	535	10209	1021	8620	1050	6617	1006	12243	1336	48887	5496

A = # of Applications

D = # of Denials

## Pioneer Valley Planning Commission

## Owning a Place to Call Home

Appendix Table 4: Applications and Denials for All Loans by All Lenders in Springfield MSA from 1996 to 2001 (A=# of Applications, D=# of Denials)

	Applicants Race and Ethnicity by Income	1996		1997		1998		1999		2000		2001		Total	Denial Rate
		A	D	A	D	A	D	A	D	A	D	A	D		
Under 50%	Amer. Indian/AK Native	n/a	n/a	4	0	3	1	5	1	5	4	5	2	22	36%
	Asian Pacific Islander	n/a	n/a	12	4	13	3	20	7	24	7	12	6	81	33%
	African-American	n/a	n/a	93	23	81	17	154	66	161	62	120	38	609	34%
	Latino	n/a	n/a	146	32	108	29	177	52	177	59	219	61	827	28%
	White	n/a	n/a	784	263	725	157	782	192	691	182	811	201	3793	26%
	Other	n/a	n/a	8	1	13	2	10	5	12	3	13	3	56	25%
	Joint (White/Minority)	n/a	n/a	4	2	8	2	7	2	6	2	11	3	36	31%
50-79%	Race Not Available	n/a	n/a	215	101	442	204	447	184	437	198	600	326	2141	47%
	Amer. Indian/AK Native	n/a	n/a	6	2	8	0	16	4	11	7	11	5	52	18
	Asian Pacific Islander	n/a	n/a	34	6	50	6	38	5	62	16	64	8	248	41
	African-American	n/a	n/a	264	57	259	56	317	108	422	115	343	94	1605	27%
	Latino	n/a	n/a	337	82	299	54	335	102	553	121	528	123	2052	23%
	White	n/a	n/a	2569	454	2866	370	2667	446	2394	436	3312	462	13808	16%
	Other	n/a	n/a	28	7	34	7	34	7	25	4	26	4	147	29
80-99%	Joint (White/Minority)	n/a	n/a	40	5	28	2	28	11	23	6	39	9	158	33
	Race Not Available	n/a	n/a	480	151	926	360	956	355	944	388	1467	643	4773	21%
	Amer. Indian/AK Native	4	1	4	0	7	1	8	2	5	2	9	3	37	9
	Asian Pacific Islander	18	7	27	4	29	6	32	6	33	6	45	5	184	34
	African-American	104	16	109	21	118	25	165	52	211	61	208	46	915	221
	Latino	105	17	148	34	128	18	139	41	211	50	249	49	980	209
	White	1863	205	1794	218	2423	223	1962	263	1914	274	2821	301	12777	1484
100-119%	Other	4	0	28	1	16	3	23	6	17	2	22	5	110	17
	Joint (White/Minority)	42	10	39	5	28	2	28	6	35	5	46	6	218	34
	Race Not Available	225	70	270	90	670	243	631	194	623	239	1040	389	3459	1225
	Amer. Indian/AK Native	4	1	3	0	2	0	8	2	3	1	3	1	23	5
	Asian Pacific Islander	25	7	19	1	32	2	22	3	15	2	35	4	148	19
	African-American	93	23	71	14	99	27	112	29	148	31	128	39	651	163
	Latino	69	13	55	15	82	18	111	34	114	21	140	28	571	129
Over 120%	White	1786	162	1535	178	2245	195	2022	241	1520	242	2467	233	11575	1251
	Other	2	0	7	1	13	1	17	5	13	2	17	3	69	12
	Joint (White/Minority)	41	4	28	6	41	4	34	8	38	3	47	4	229	29
	Race Not Available	207	69	246	79	590	218	519	161	497	177	859	276	2918	980
	Amer. Indian/AK Native	14	3	6	0	15	5	4	1	8	2	31	8	78	19
	Asian Pacific Islander	66	2	49	5	86	8	66	6	63	12	116	14	446	47
	African-American	120	14	108	22	159	25	193	57	205	57	258	54	1043	229
Over 120%	Latino	80	18	84	16	129	15	130	23	124	40	221	46	768	158
	White	4981	369	4377	342	7911	467	6594	565	4765	487	8850	537	37478	2767
	Other	26	2	45	5	51	0	43	10	43	3	65	7	273	27
	Joint (White/Minority)	95	4	81	7	150	10	111	19	129	22	221	8	787	70
	Race Not Available	504	136	562	138	1708	491	1479	369	1280	383	2481	662	8014	2179



## Pioneer Valley Planning Commission

Owning a Place to Call Home

Appendix Table 5: Top Ten Prime and Subprime Lenders included in lending analysis

Prime Lenders 1997 & 2001	1997	Subprime Lenders 2001
Bank of WesternMass	1st Consumers Mortgage Corporation	Aegis Mortgage Corporation
FirstMass/SIS	American Money Centers	Ameriquest Mortgage Company
Country Bank for Savings	Ameriquest Mortgage Company	Beneficial Corporation
Fleet National Bank	Commercial Credit Corporation	Citifinancial Services, Inc.
Florence Savings Bank	Equicredit Corp of America	Equity One, Inc.
People's Savings Bank	Green Point Mort Company	First Franklin Financial Corporation
United Cooperative	National Mortgage Corporation	Greenpoint Mortgage Funding, I
Westbank	Option One Mortgage Corporation	Household Finance Corporation
Westfield Bank	Security Funding Corporation	Nationscredit Financial Service
Woronoco Savings Bank	The Money Store	New Century Mortgage Corporation

Pioneer Valley Planning Commission  
 Appendix Table 6: Denial Rates for 10 Leading Prime and Subprime Lenders by Race/Ethnicity and Income in 1997

Owning a Place to Call Home

	Prime Refinance				Prime Conventional				Subprime Refinance				Subprime Conventional			
	A	D	Denial Rate		A	D	Denial Rate		A	D	Denial Rate		A	D	Denial Rate	
Under 50%																
Am. Indian/AK Native	1	0	0%		0	0	-		1	0	0%		0	0	-	
Asian/Pacific Islander	1	0	0%		3	2	67%		0	0	-		0	0	-	
African-American	3	1	33%		11	4	36%		21	6	29%		10	2	20%	
Latino	2	1	50%		23	6	26%		10	3	30%		17	0	0%	
White	65	12	18%		95	20	21%		107	34	32%		24	5	21%	
Other	0	0	-		1	1	100%		1	0	0%		0	0	-	
Joint (White/Minority)	0	0	-		1	0	0%		0	0	-		0	0	-	
Race not Available	13	4	31%		6	5	83%		66	32	48%		17	6	35%	
50-79%																
Am. Indian/AK Native	1	1	100%		0	0	-		0	0	-		3	1	33%	
Asian/Pacific Islander	2	0	0%		6	0	0%		3	3	100%		0	0	-	
African-American	10	2	20%		25	2	8%		42	11	26%		37	12	32%	
Latino	9	4	44%		31	8	26%		16	5	31%		41	7	17%	
White	214	31	14%		373	32	9%		215	53	25%		63	9	14%	
Other	1	0	0%		1	1	100%		5	3	60%		2	1	50%	
Joint (White/Minority)	1	0	0%		4	0	0%		6	0	0%		1	0	0%	
Race not Available	22	7	32%		9	6	67%		131	34	26%		31	7	23%	
80-99%																
Am. Indian/AK Native	0	0	-		0	0	-		0	0	-		0	0	-	
Asian/Pacific Islander	2	1	50%		5	1	20%		1	0	0%		1	0	0%	
African-American	5	4	80%		9	0	0%		20	8	40%		12	1	8%	
Latino	6	4	67%		13	2	15%		10	2	20%		13	2	15%	
White	159	21	13%		294	21	7%		138	31	22%		37	9	24%	
Other	24	1	4%		2	0	0%		4	0	0%		2	1	50%	
Joint (White/Minority)	2	0	0%		7	1	14%		2	0	0%		1	0	0%	
Race not Available	21	10	48%		3	1	33%		60	17	28%		23	5	22%	
100-119%																
Am. Indian/AK Native	0	0	-		1	0	0%		1	0	0%		0	0	-	
Asian/Pacific Islander	1	0	0%		3	0	0%		0	0	-		2	0	0%	
African-American	2	1	50%		4	0	0%		10	1	10%		8	1	13%	
Latino	5	3	60%		3	0	0%		3	1	33%		7	3	43%	
White	177	15	8%		244	15	6%		114	27	24%		39	11	28%	
Other	2	0	0%		0	0	-		1	0	0%		0	0	-	
Joint (White/Minority)	1	0	0%		4	1	25%		1	0	0%		0	0	-	
Race not Available	10	7	70%		4	1	25%		52	15	29%		7	1	14%	
Over 120%																
Am. Indian/AK Native	1	0	0%		0	0	-		1	0	0%		1	0	0%	
Asian/Pacific Islander	7	1	14%		7	0	0%		1	0	0%		0	0	-	
African-American	7	4	57%		5	2	40%		23	4	17%		11	3	27%	
Latino	2	1	50%		11	1	9%		15	3	20%		3	0	0%	
White	662	41	6%		723	28	4%		208	49	24%		64	10	16%	
Other	1	0	0%		5	0	0%		9	1	11%		0	0	-	
Joint (White/Minority)	9	0	0%		12	0	0%		7	1	14%		0	0	-	
Race not Available	33	17	52%		4	0	0%		86	17	20%		14	4	29%	

Pioneer Valley Planning Commission  
Appendix Table 7: Denial Rates for 10 Leading Prime and Subprime Lenders by Race/Ethnicity and Income in 2001  
Owning a Place to Call Home

	Applicant Race and Ethnicity by Income	Prime Refinance			Prime Conventional			Subprime Refinance			Subprime Conventional		
		A	D	Denial Rate	A	D	Denial Rate	A	D	Denial Rate	A	D	Denial Rate
Under 50%	Am. Indian/AK Native	1	0	0%	0	0	-	2	1	50%	0	0	-
	Asian/Pacific Islander	0	0	-	1	0	0%	1	1	100%	1	0	0%
	African-American	8	5	63%	6	0	0%	38	14	37%	8	4	50%
	Latino	13	7	54%	66	4	6%	34	18	53%	2	1	50%
	White	122	32	26%	105	19	18%	119	36	30%	7	3	43%
	Other	3	0	0%	1	0	0%	2	1	50%	0	0	-
	Joint (White/Minority)	0	0	-	0	0	-	3	1	33%	1	0	0%
50-79%	Race not Available	19	13	68%	17	9	53%	158	109	69%	3	1	33%
	Am. Indian/AK Native	3	2	67%	1	1	100%	0	0	-	0	0	-
	Asian/Pacific Islander	2	0	0%	17	1	6%	4	2	50%	2	0	0%
	African-American	12	3	25%	23	3	13%	70	27	39%	22	10	45%
	Latino	35	16	46%	108	14	13%	53	20	38%	30	12	40%
	White	492	65	13%	537	33	6%	266	89	33%	43	10	23%
	Other	3	1	33%	4	0	0%	3	1	33%	0	0	-
80-99%	Joint (White/Minority)	0	0	-	10	0	0%	7	4	57%	0	0	-
	Race not Available	52	26	50%	14	8	57%	415	240	58%	6	3	50%
	Am. Indian/AK Native	2	1	50%	1	0	0%	2	1	50%	0	0	-
	Asian/Pacific Islander	5	1	20%	11	1	9%	2	1	50%	0	0	-
	African-American	14	5	36%	19	0	0%	41	9	22%	13	7	54%
	Latino	17	9	53%	25	1	4%	24	11	46%	16	6	38%
	White	497	48	10%	322	16	5%	178	54	30%	30	9	30%
100-119%	Other	2	1	50%	2	0	0%	4	3	75%	1	0	0%
	Joint (White/Minority)	11	3	27%	2	0	0%	2	0	0%	0	0	-
	Race not Available	47	21	45%	11	6	55%	238	113	47%	10	3	30%
	Am. Indian/AK Native	1	1	100%	0	0	-	0	0	-	0	0	-
	Asian/Pacific Islander	6	2	33%	7	0	0%	0	0	-	0	0	-
	African-American	10	4	40%	5	0	0%	22	14	64%	4	1	25%
	Latino	22	7	32%	8	0	0%	17	7	41%	3	2	67%
Over 120%	White	496	46	9%	261	11	4%	138	44	32%	28	11	39%
	Other	0	0	-	2	0	0%	3	1	33%	0	0	-
	Joint (White/Minority)	4	1	25%	10	0	0%	3	2	67%	0	0	-
	Race not Available	52	18	35%	7	1	14%	179	83	46%	3	1	33%
	Am. Indian/AK Native	16	3	19%	1	0	0%	4	3	75%	0	0	-
	Asian/Pacific Islander	25	3	12%	19	2	11%	7	1	14%	4	3	75%
	African-American	25	6	24%	9	1	11%	46	15	33%	8	3	38%
Over 120%	Latino	19	8	42%	8	2	25%	26	9	35%	3	0	0%
	White	2152	120	6%	1024	26	3%	303	78	26%	43	14	33%
	Other	13	2	15%	7	1	14%	0	0	-	1	0	0%
	Joint (White/Minority)	40	2	5%	28	1	4%	11	1	9%	0	0	-
	Race not Available	246	59	24%	26	1	4%	428	194	45%	11	3	27%